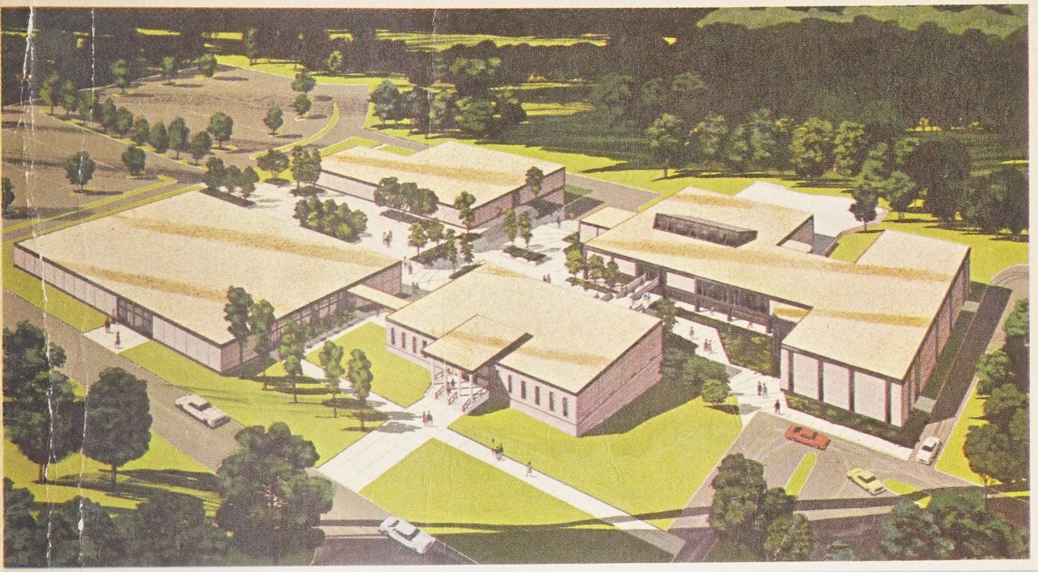

Rowan Technical Institute/Catalog 1976-1978

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ROWAN TECHNICAL INSTITUTE

Salisbury, N. C. 28144 Telephone 637-0760

Administered by
BOARD OF TRUSTEES

Supported by
THE NORTH CAROLINA STATE BOARD OF EDUCATION
DEPARTMENT OF COMMUNITY COLLEGES
THE ROWAN COUNTY BOARD OF COMMISSIONERS

Accredited by
THE SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS
THE NORTH CAROLINA STATE BOARD OF EDUCATION

Member of
AMERICAN ASSOCIATION OF COMMUNITY AND JUNIOR COLLEGES

General Catalog
1976-1978

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Rowan Technical Institute operates in compliance with Title VI of the Civil Rights Act of 1964. No qualified person shall, on the ground of race, color, sex, or national origin, be excluded from participation in, be declined the benefits of, or be subjected to discrimination under any program or activity.

Rowan Technical Institute is an equal employment opportunity institution. Rowan Technical Institute operates under the North Carolina Department of Community Colleges. The Institute is accredited by the Southern Association of Colleges and Schools and the North Carolina State Board of Education. The Institute is also approved and recognized by the North Carolina State Board of Nursing and the Veterans Administration.

Rowan Technical Institute issues this catalog to furnish prospective students and other interested persons with information about the institution and its programs. Announcements contained herein are subject to change without notice and may not be regarded in the nature of binding obligations on the Institute or the State.

Mailing Address: Rowan Technical Institute
P. O. Box 1595, Salisbury, North Carolina 28144

Telephone Number: 637-0760 Area Code 704

For prompt handling, inquiries should be addressed to the offices indicated below:

General Information	President
Business Affairs	Business Manager
Admissions, Student Information, Financial Aid, Counseling Services	Dean of Students
Vocational-Technical Programs	Dean of Occupational Education
Continuing Education	Dean of Continuing Education

Visitors are always welcome at Rowan Technical Institute. The Administrative Offices are open Monday through Thursday from 8 a.m. to 10 p.m. and Friday from 8 a.m. to 5 p.m. Visitors desiring interviews with members of the staff are urged to make appointments in advance.

CALENDAR OF EVENTS

1976-1977

FALL QUARTER

September	7-21		Faculty and Institutional Development
	22	Wednesday	Faculty Orientation
	23	Thursday	Registration for new students and **only** date for late registration for continuing students
	24	Friday	Faculty preparation — no registration or course change for any student
	27	Monday	Faculty preparation — no registration or course change for any student
	28	Tuesday	Instruction begins — only date for late registration for new students
	29	Wednesday	Last date for course change (all students)
November	8	Monday	Mid-quarter progress reports — last date to remove incompletes
	24	Wednesday	Instruction ends for Thanksgiving Holidays
	29	Monday	Instruction resumes
December	1	Wednesday	Registration for Winter Quarter (continuing students); no classes
	2	Thursday	Instruction resumes; registration continues for evening continuing students **only**
	16	Thursday	End of Fall Quarter (55th day)
	17	Friday	Faculty Records Day

WINTER QUARTER

January	3	Monday	Registration for new students and **only** date for late registration for continuing students
	4	Tuesday	Instruction begins — only date for late registration for new students
	5	Wednesday	Last date for course change (all students)
February	10	Thursday	Mid-quarter progress reports — last date to remove incompletes
March	1	Tuesday	Registration for Spring Quarter (continuing students); no classes
	2	Wednesday	Instruction resumes; registration continues for evening continuing students **only**
	22	Tuesday	End of Winter Quarter (55th day)
	23	Wednesday	Faculty Records Day

SPRING QUARTER

March	24	Thursday	Registration for new students and **only** date for late registration for continuing students
	28	Monday	Instruction begins — only date for late registration for new students
	29	Tuesday	Last date for course change (all students)
April	7	Thursday	Instruction ends for Easter Holidays
	12	Tuesday	Instruction resumes
May	6	Friday	Mid-quarter progress reports — last date to remove incompletes
	31	Tuesday	Registration for Summer Quarter (continuing students); no classes
June	1	Wednesday	Instruction resumes; Registration continues for evening continuing students **only**
	15	Wednesday	End of Spring Quarter (55th day)
	16	Thursday	Faculty Records Day and evening registration for new students

SUMMER QUARTER

June	17	Friday	Registration for new students and **only** date for late registration for continuing students
June 20-July 5			Faculty Vacation
July	6	Wednesday	Instruction begins — only date for late registration (all students)
	7	Thursday	Last date for course change (all students)
August	15	Monday	Mid-quarter progress reports — last date to remove incompletes
	22	Monday	Registration for Fall Quarter (continuing students); classes meet
	29	Monday	Registration for Fall Quarter (new students); classes meet
September	5	Monday	Labor Day Holiday
	21	Wednesday	End of Summer Quarter (55th day)
	22	Thursday	Faculty Records Day and Evening Graduation

CALENDAR OF EVENTS

1977-1978

FALL QUARTER

September	28	Wednesday	Faculty Orientation
	29	Thursday	Late registration (all students, day and evening)
	30	Friday	Faculty Preparation — no registration or course change for any student
October	3	Monday	Instruction begins — last date for late registration (all students)
	4	Tuesday	Last date for course change (all students)
November	9	Wednesday	Mid-quarter progress reports — last date to remove incompletes
	23	Wednesday	Instruction ends for Thanksgiving Holidays
	28	Monday	Instruction resumes
December	1	Thursday	Registration for Winter Quarter (all continuing students); no classes
	2	Friday	Instruction resumes
	21	Wednesday	End of Fall Quarter (55th day)
	22	Thursday	Faculty Records Day

WINTER QUARTER

January	2	Monday	Registration for new students and **only** date for late registration for continuing students
	3	Tuesday	Instruction begins — only date for late registration for new students
	4	Wednesday	Last date for course change (all students)
February	9	Thursday	Mid-quarter progress reports — last date to remove incompletes
March	1	Wednesday	Registration for Spring Quarter (continuing students); no classes
	21	Tuesday	End of Winter Quarter (55th day)
	22	Wednesday	Faculty Records Day

SPRING QUARTER

March	28	Tuesday	Registration for new students and **only** date for late registration for continuing students
	29	Wednesday	Instruction begins — only date for late registration for new students
	30	Thursday	Last date for course change (all students)
May	5	Friday	Mid-quarter progress reports — last date to remove incompletes
June	1	Thursday	Registration for Summer Quarter (continuing students); no classes
	14	Wednesday	End of Spring Quarter (55th day)
	15	Thursday	Faculty Records Day and registration for new evening students

SUMMER QUARTER

June	16	Friday	Registration for new students and **only** date for late registration for continuing students
June 19-July 4			Faculty Vacation
July	5	Wednesday	Instruction begins — only date for late registration (all students)
	6	Thursday	Last date for course change (all students)
August	11	Friday	Mid-quarter progress reports — last date to remove incompletes
	22	Tuesday	Registration for Fall Quarter (continuing students); classes meet
	29	Tuesday	Registration for Fall Quarter (new students); classes meet
September	4	Monday	Labor Day Holiday
	20	Wednesday	End of Summer Quarter (55th day)
	21	Thursday	Faculty Records Day and Evening Graduation

GENERAL INFORMATION

HISTORY OF THE INSTITUTE

The history of Rowan Technical Institute is marked by steady growth to serve the people of the mid-Piedmont area of North Carolina. In 1960, Salisbury-Rowan community leaders, working through the Chamber of Commerce, conducted an area manpower requirements survey. Results of this survey provided the basis for requesting the State Board of Education to establish an industrial education center in Rowan County.

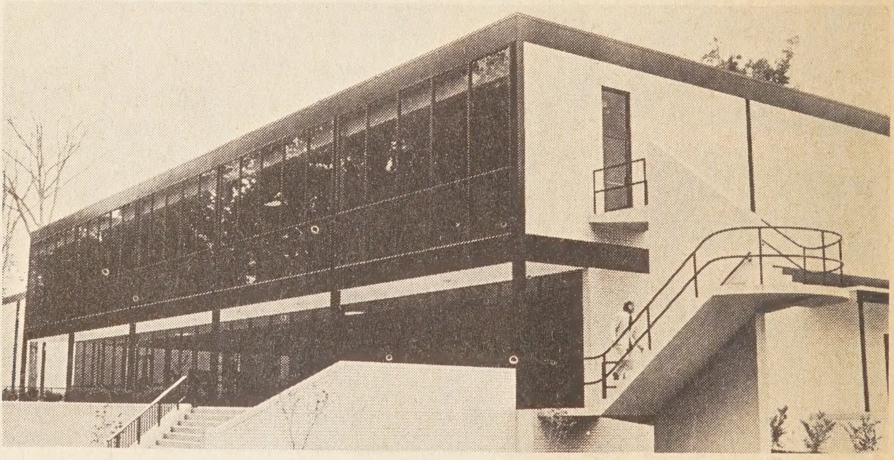
The people of Rowan County, by a wide margin, approved a $500,000 bond issue to purchase land and to finance the construction of the first physical facilities.

Following completion of the first building, designed especially for vocational-technical education, the Institute opened its doors to the first group of full-time students on September 3, 1963. During this first year of operation, students were enrolled in seven pre-employment education programs and a variety of short courses for adults.

The Institute, under the provisions of the Community College-Technical Institute Act of 1963, was designated as Rowan Technical Institute in March 1964. This development, in recognition of its successful beginning and its potential for broader service, enabled the Institute to provide broader occupational education opportunities.

The Board of Trustees and administration of Rowan Technical Institute, together with active advisory committees appointed for all educational programs, continuously seek ways to serve the people of Rowan and surrounding counties by providing opportunities for their continuining growth and development through occupational and adult education and other community service activities.

During the 1975-76 school year the various educational programs of Rowan Tech have served almost 20,000 citizens of Rowan and surrounding counties. These enrollments constitute, to a high degree, evidence of the Institute's fulfillment of its basic purpose. The Institute now offers



organized educational curricula in vocational trades, business careers, health careers, engineering technologies, and pre-curriculum preparatory for entrance in the two-year programs. A broad range of course offerings in general adult education including preparation for the Adult Education High School diploma are offered each quarter. In addition to these, particular emphasis is placed on offering many occupational upgrading courses for persons in business and industry.

Long range plans for growth and development of physical facilities and educational programs have been developed and approved by the Board of Trustees. Significant among these plans are the addition of approximately 83,000 square feet to the now existing campus as the result of Rowan County voter approval of a $2.5 million Bond Referendum. This building phase is complete and is being occupied for the first time in Fall, 1976.

In June 1971, the Board of Trustees established the Rowan Technical Institute Distinguished Service Award to recognize citizens who "unselfishly promote the progress of the Institute." The following persons have received the award:

1971 — Dr. Ladd Hamrick
1972 — Mr. Roger Smithling
1973 — Mrs. Emily Turner
1974 — Mrs. Rose Post
1975 — Dr. Ronald Steelman
1976 — Mr. Hugh Hurst

PURPOSE AND OBJECTIVES

The purpose of Rowan Technical Institute is to serve the people of North Carolina and specifically the people of Rowan and surrounding counties, by providing opportunities for their continuing growth and development through occupational, adult, and community service education. The Institute constantly strives to inspire young people and adults to increase their knowledge, to develop occupational proficiencies, and to continue their personal growth as responsible citizens in a democratic society.

In keeping with its purpose, the Institute seeks to:

Contribute to the student's self-understanding to the end that he may choose realistic educational and vocational goals.

Provide opportunities for the acquisition of the necessary knowledge and skills that will aid in initial employment and occupational growth.

Provide instruction for continuing personal growth and development.

Help the student better understand his privileges and responsibilities as a citizen in a democratic society.

In seeking to carry out its purpose and objectives, the Institute provides the following:

Two years of technical education which prepares individuals for employment as technicians.

One year of vocational education for persons preparing for employment in a skilled trade.

Occupational courses for persons who desire to upgrade themselves in their present employment.

Specialized training programs to prepare persons for new jobs in new and expanding business and industry.

Adult education programs based on individual needs and interests with emphasis on:

Basic adult education covering grades 1-8.

Preparation for the State approved Adult Education High School Diploma or the North Carolina High School Equivalency Certificate.

Cultural and community service activities.

LOCATION AND FACILITIES

Rowan Technical Institute is conveniently located at Interstate 85 and Klumac Road, which is near the center of the population area served. The 102 acre campus provides an ideal setting for an occupational education institution.

The present physical plant consists of six buildings containing 170,000 square feet. This space is used to provide realistic instruction in air conditioned classrooms, laboratories, and shops.

THE LEARNING RESOURCE CENTER

The Learning Resource Center consists of three major service areas: library services, audiovisual services, and individualized instructional services.

The Learning Resource Center, a multi-media center, has a carefully selected and growing collection consisting of more than 20,000 bound volumes, subscriptions to 225 current periodicals, and a variety of audiovisual materials such as films, filmstrips, slides, transparencies, tapes, microforms, recordings, and video tapes.

Audiovisual equipment to be used with non-print materials is centrally administered through the Learning Resource Center.

The Individualized Instruction Center (IIC) is an integral part of the LRC. The materials that are housed in the IIC are listed in the LRC card catalog and are the kinds of materials which make individualized instruction possible. Many, but not all of the materials are programmed. Some are individualized through the use of audio tapes, filmstrips, and other non-book materials.

The LRC, air-conditioned and carpeted, is housed in an attractive and well equipped facility. Individual study carrels, tables, and lounge furniture provide a pleasant atmosphere in which to study and do research. A professional librarian is on duty to assist with reference, research, and reading guidance.

The Learning Resource Center is open to all persons in business, industry, and the community for reference materials not available from other sources in the area.

CLASS SCHEDULE

Rowan Technical Institute offers classes between the hours of 8:00 a.m. and 11:00 p.m.

The majority of curricula credit courses are offered during the day session, 8:00 a.m. to 5:00 p.m. When demand is sufficient, curriculum courses are offered during the evening session, 6:00 p.m. to 11:00 p.m.

The availability of curricula credit courses during both day and evening sessions allows working students the opportunity to select curriculum courses applicable to a degree or diploma. Any person, after completion of the appropriate admission procedures, may enroll for the day or evening classes.

Non-credit courses which are offered primarily for personal and community improvement are also offered during the day and evening sessions.

Prior to the beginning of each quarter, schedules indicating types, locations, and times of classes to be offered are published by the Institute and also announced in local news media.

ADMINISTRATIVE OFFICE HOURS

Institute offices are open Monday through Friday from 8:00 a.m. to 5:00 p.m. An evening supervisor is on duty Monday through Thursday until 11:00 p.m.

CHANGES IN REGULATIONS

Rowan Technical Institute reserves the right to make changes in the regulations, courses, fees, and other matters of policy and procedure as and when deemed necessary.

STUDENT CONDUCT

Self-discipline is an essential element of individual growth and development. Accordingly, students are expected to display the qualities of courtesy and integrity that characterize the behavior of mature ladies and gentlemen.

Students will be governed by such rules and regulations as may be established by the administration and the Student Government Association.

The Institute does not permit the use or possession of alcoholic beverages or hallucinatory drugs on the campus or at Institute sponsored functions. Violation of rules and regulations may subject the student to disciplinary measures or dismissal.

STUDENT GRIEVANCE PROCEDURES

A student or student group who feels that they have been unjustly treated by a member of the faculty or staff, or a fellow student, should feel free to take this matter to the Dean of Students.

DUE PROCESS

Following notice of dismissal, suspension or probation, a student shall, upon request to the (Dean of Students or President) within ten (10) days thereafter, be given a detailed, written statement of the reasons for the action taken, and will have an opportunity for a hearing before a student-faculty committee as soon as practicable. No adverse action will be taken sooner than ten (10) days after the original notice has been given, or, where hearing before the student-faculty committee is requested, until such time as the committee has rendered a decision. The student may request a hearing before the Board of Trustees for review of the committee hearing, by giving notice within thirty (30) days from date of committee decision.

PARKING REGULATIONS

All day students who plan to park an automobile on the campus must secure a parking permit when registering for classes. Cars will be parked in designated parking areas.

OCCUPATIONAL EDUCATION

ADMISSION

Rowan Technical Institute, as do all other branches of the North Carolina Department of Community Colleges, operates under an "open door" admissions policy. This means that any high school graduate, or any high school non-graduate eighteen years old or older, who is able to profit from further formal education may be admitted to the Institute.

The open door policy does not mean that there are no restrictions on specific programs. It does mean that these restrictions are flexible enough to allow each student the opportunity to eliminate deficiencies through remedial work. When a student is able to meet the specific admission requirements for a given curriculum, he may then be enrolled in that curriculum, and he may remain in the program for as long as he makes satisfactory progress.

All applications to Rowan Technical Institute are subject to evaluation by the Admissions Committee which is composed of the following: Dean of Occupational Education, Dean of Students, Director of Admissions and Records, appropriate department head and program head.

The Institute is authorized under Federal law to enroll non-immigrant alien students.

ADMISSION PROCEDURES

Applicants to occupational education programs are encouraged to complete admission procedures as early as possible. Applications will be accepted from high school students during the senior year. Others may apply at any time preceding enrollment. New students are usually admitted each year at the beginning of the fall quarter. Transfer students and others accepted for part-time attendance may be admitted at the beginning of other quarters. All data should be on file four weeks before initial enrollment.

The admission procedure for all occupational education programs requires that the student:

1. Complete the Application for Admission and return it to the Student Personnel Office.
2. Have the high school forward a transcript of his high school record directly to the Student Personnel Office of Rowan Technical Institute. If the applicant is in his final year of high school, a preliminary record should be sent in support of his application, with the understanding that it is to be supplemented after graduation.

Entry into technical programs requires that the applicant be a high school graduate, or have passed the North Carolina High School Equivalency Test, or have completed the Adult High School Program (available at Rowan Tech).

Entry into vocational programs does not require high school graduation or completion of high school equivalency requirements.

3. Have any college, university, or technical institute previously attended forward an official transcript.
4. Report to the Student Personnel Office for placement testing as scheduled, or notify that office to request another appointment.

Students who wish to register for credit courses but who at present have no intention of completing a curriculum program will be classified as Special Credit Students, and may be admitted to credit classes with advisor's approval. Admission requirements, tuition, and fees are the same as for regular curriculum students. Students who later wish to apply credits earned under the Special Credit status to a degree or diploma program must make a formal request of curriculum change to the Director of Admissions and Records by the time they have earned 21 credit hours under the Special Credit status.

Admissions policy implementation is under the direction of the Director of Admissions and Records.

SPECIFIC PROGRAM PLACEMENT REQUIREMENTS

Some programs require additional prerequisites. These programs and their specific prerequisites are:

	High School Courses								
	Alg. I	**Alg. II**	**Geom.**	**Biol. I**	**Chem. I**	**Gen. Math**	**Med. Exam**	**Dent. Exam**	**Spec. Test.**
Associate Degree Nursing	X			X	X		X	X	X
Criminal Justice							X		X
Dental Assistant							X	X	X
Drafting & Design Tech.	X	X or	X						
Early Childhood Education						X	X	X	X
Electrical Engineering Tech.	X	X or	X						
Electronics Engineering Tech.	X	X or	X						
Fire Protection Technology	X	X or	X						
Fire Science Technology	X	X or	X				X		
Industrial Management Tech.	X	X or	X						
Ind. Safety & Health Tech.	X	X or	X						
Manufact. Engineering Tech.	X	X or	X						
Practical Nurse Education							X	X	
Radiologic Technology	X			X	X		X	X	X

*Special testing generally consists of the General Aptitude Test Battery as administered by the North Carolina Employment Security Commission, but may include other specialized tests.

PRE-CURRICULUM PROGRAMS

Developmental course work may be recommended for a student's program of studies if entrance examination scores indicate such is merited in one or more subject areas. Such developmental work may involve assignment to tutoring sessions, programmed materials study, small class sessions with other students having similar needs, or any other educational method judged appropriate by the counselor in his evaluation of the applicant's academic status. The student may be enrolled in one or more developmental subject areas, as indicated by entrance examination scores, in addition to regular curriculum course work. Any combination of studies — both developmental and curriculum — may be prescribed, according to the recommendation of the counselor.

Applicants who need this extra, pre-curriculum course work are urged to complete the necessary work before the curriculum program they want begins (ordinarily each September). Thus, they would be able to begin their regular curriculum course work with no extra requirements on their time. Each student involved in a pre-curriculum course should be able to work with the counselor and other personnel until his success in the regular curriculum program is insured. Pre-curriculum students must meet all admission requirements, pay registration fees, and are expected to follow the same academic regulations as placed on other curriculum students.

REGISTRATION AND EXPENSES

The Institute operates on the quarter system. All students are expected to register during the time scheduled for that purpose. Registration dates are listed in the Calendar of Events published in this catalog.

A $3.00 late fee will be charged to students registering after the announced registration day.

ACCIDENT AND LIABILITY INSURANCE

Accident insurance, covering hours in school and transportation to and from school, is available for approximately $4.00 per year. This insurance is strongly recommended, though not required. Health Occupations and Childhood Education students are required to purchase student professional liability insurance, which is available at approximately $10.00 per year.

REFUNDS

Tuition and activity fee refunds will be made only if the student is, in the judgment of the administration, compelled to withdraw for unavoidable reasons. In such cases, two-thirds of the student's tuition and the full amount of activity fee may be refunded, providing the student withdraws within ten calendar days after the first day of classes as published in the Calendar of Events. Refunds are not authorized after that time. Tuition refunds are not authorized for amounts of $5.00 or less, unless a course is not offered. In this case, the full amount of tuition will be refunded.

RESIDENT STUDENTS

A resident student is generally defined as one whose legal residence must have been in North Carolina for at least 12 months immediately prior to enrollment or re-enrollment in an institution of higher education.

STUDENT ACTIVITY FEE

All students taking 12 or more credit hours on campus are required to pay an activity fee of $5.00 for each of the fall, winter, and spring quarters. This fee is used to support the Student Activities Program.

TEXTBOOKS AND SUPPLIES

The cost of textbooks and supplies varies according to the program of study, but averages about $55.00 per quarter for full-time students. These items may be purchased from the Bookstore.

TUITION AND FEES

Tuition fees are set by the State Board of Education and are subject to change without notice. Cost of textbooks and supplies are additional expenses which vary according to the program of study. Current basic fees to be paid by students upon enrollment are as follows:

The tuition fee for resident curriculum students is charged at the rate of $2.75 per credit hour with a maximum tuition charge of $33.00 per quarter. Tuition for non-residents is $162.50 per quarter for full-time enrollment or $13.50 per credit hour for part-time enrollment.

STUDENT SERVICES

Rowan Technical Institute offers a program of student services designed to meet the needs of students. These services are administered by the Office of Student Personnel and are available upon request.

COUNSELING

The counseling service has been established to give professional assistance to students. The staff is comprised of trained counselors who are qualified to help individuals assess and understand their abilities, aptitudes, interests, and other characteristics. The counselors have available information concerning local, state, and national job opportunities and are able to help students utilize this information in making career decisions. As the career direction is determined, counselors are able to help students plan courses of study which will facilitate the achievement of long-range goals. In addition to vocational and educational counseling, counselors are prepared to assist students in working through personal and social concerns.

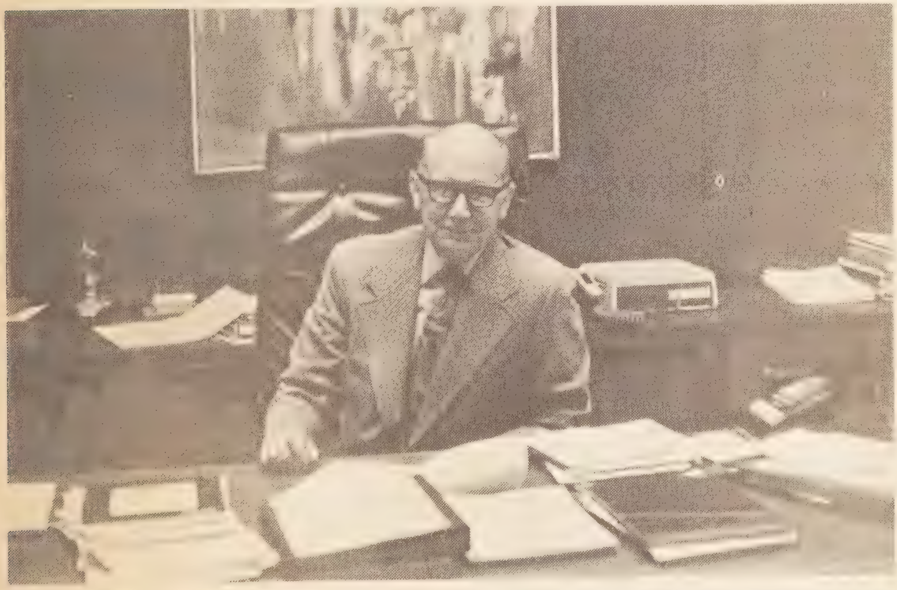
FINANCIAL AID

Rowan Technical Institute attempts to assist students to meet their financial needs for occupational education. This is done through a program of financial aid which includes many forms of assistance.

The Institute serves as a referral agency for:
- Veterans Benefits
- Social Security
- Vocational Rehabilitation
- Department of Social Services
- Employment for part-time work
- Employment Security Commission

The Institute serves as a disbursing or coordinating agency for:
- Scholarships
- College Work-Study Programs
- Basic Education Opportunity Grant (BEOG)
- North Carolina Student Incentive Grant (NCSIG)

Loans:
- National Vocation Student Insured Loan Plan
- Bryan Foundation Student Loan Plan
- Practical Nurse Education Loan Plan
- Revolving Loan Fund



A limited number of scholarships are given each year; however, most scholarships are donated on a year-to-year basis causing a variation in numbers of scholarships available each year.

The H. J. Benson Scholarship is awarded annually to a full-time Engineering Technology student, who, during the freshman year, maintained high academic standing in physics and demonstrated the desire and aptitude to succeed in the field of technology. Tentative recipients will be chosen on the basis of their academic average for the first two quarters of technical physics. Only those students whose composite two-quarter academic average ranks in the top ten percent of the class will be recommended for selection.

The Revolving Loan Fund is made available to students in emergency situations where small, short-term loans can help the student remain in school. All currently enrolled students may apply; and loans are made on the basis of available funds and number of applicants.

All students accepted to a curriculum program may apply for all forms of financial aid through the Student Personnel Office. Amount of aid is allocated to students on the basis of need and indicated ability to succeed in the program to which he has applied. The kind of aid is also determined through consultation with the student. Students needing financial assistance may apply for all forms of financial aid through the Financial Aid Officer.

JOB PLACEMENT

Job placement service is provided for graduates of the Institute. This service is performed by the Dean of Students in cooperation with appropriate program head. Contact is maintained with business and industrial firms in an effort to identify job opportunities in the various career fields taught at the Institute.

The purpose of the job placement service is to help students establish contact with prospective employers and present their qualifications for entry-level employment. The responsibility for securing employment rests entirely with the individual.

Companies and other organizations that wish to consider graduates of Rowan Technical Institute are invited to call or write the Dean of Students. Interviews with prospective graduates are generally arranged on the campus during the spring and summer quarters.

OCCUPATIONAL INFORMATION

Information on occupations, educational programs, and job opportunities is available through the Institute to students and prospective students. The staff in the Student Personnel Office is available to assist anyone in finding and interpreting desired information.

STUDENT ACTIVITIES

Rowan Technical Institute offers its students the opportunity to participate in a variety of activities. Student activities are considered an integral part of the student's total educational experience. Students are encouraged to participate in social activities.

The Student Government Association gives the students an opportunity to gain practical experience in the democratic process through participation in a program of self government. The purpose of the Student Government Association is to provide the means for responsible and effective student participation in the organization and control of student affairs. The Student Government Association is composed of all full-time students. Part-time students may elect to join the Association. The constitution and activities of the Association are subject to approval and sanction of the administration of the Institute.

TESTING

Placement tests are given to assist students who are enrolling for the first time at Rowan Technical Institute. The results of these tests are used prior to registration to help the student plan an appropriate program of study. The counselors are qualified to administer and interpret a variety of other tests. These tests may be administered and interpreted to students as the need may arise during the counseling process.

VETERANS AFFAIRS

Veterans are invited to take advantage of the guidance services and educational programs offered by the Institute. All occupational curriculum programs are approved for veterans education benefits. Rowan Technical Institute cooperates with the Veterans Administration in assisting veterans. Wives and children of disabled or deceased veterans may receive assistance in payment of tuition and fees. For information and application forms, students should contact their county Veteran Service Office.

Veterans receive educational benefits on the following basis:

Technical Courses — Credit Hours Per Week
Vocational Courses — Credit & Contact Hours Per Week
Adult High School — Contact Hours Per Week

Certification Requirements:

	Credit Hrs.	**Contact Hrs.**	**High School Contact Hrs.**
Full-Time	12 or more	22 or more	
Three-Quarter	9-11	16-21	
Half-Time	6-8	11-15	12-17

Less than Half-Time — Tuition costs and fees only

HIGH SCHOOL TRAINING:

An eligible veteran pursuing high school training may receive educational assistance without a charge against his basic entitlement.

SUPPLEMENTARY TUTORIAL ASSISTANCE:

An eligible veteran enrolled in and pursuing a postsecondary course of education on a half-time or more basis, who, because of deficiency in a subject, required individualized tutorial assistance so that he may continue to pursue an approved program at an education institution, may receive individual tutorial services at no cost to the student.

ACADEMIC REGULATIONS

ACADEMIC LOAD — STUDENTS

A full-time student is one who is carrying 12 or more quarter hours of course work. Normal load for most students will vary between fifteen and eighteen quarter credits. Course schedules and course loads should be carefully planned through consultation with a counselor and approved by the student's faculty advisor. No student may carry in excess of 21 credit hours without prior approval of the Dean of Students, unless his curriculum requirements, as stated in the catalog, require more than 21 hours in a particular quarter.

APPLICATION FOR DEGREE, DIPLOMA, OR CERTIFICATE

Students expecting to complete requirements for a degree, diploma, or certificate should submit a petition on prescribed forms to the Student Personnel Office by the last day for adding classes in the quarter immediately preceding the contemplated date of graduation.

ATTENDANCE REQUIREMENTS

It is expected that each student will attend every class for which he is scheduled.

Any student absent for a total of three consecutive or five cumulative instructional sessions in a particular course may be dropped from that course by the instructor. An instructional session is a class meeting period which may be one or more clock hours in length, depending upon whether it is a lecture or laboratory session. This action does not constitute an official withdrawal. The student must complete the regular withdrawal procedures through the Student Personnel Office or his faculty advisor.

AUDITING COURSES

Students who wish to audit courses must register for such courses. Auditors receive no credit and are encouraged but not required to attend class, participate in discussions, and take examinations. Fees for auditors are the same as for regular students.

COURSE REPEAT RULE

A student will be permitted to substitute the second grade made on any course in which he has previously made a grade below C. In computing the cumulative G.P.A. for a student who has repeated a course, the hours and quality points earned for the first time will be omitted from the computation and only the second earned grade, whether F or higher, will count. The first grade, F or higher, will be recorded on the students transcript. A student will not be allowed to repeat for credit a course in which he has made a grade of C or above.

A veteran may repeat one time only any course previously taken for which a final grade of "F" was received. If a passing grade of "D" or better was received, the course cannot be repeated for V.A. benefits. Course for which W or Incomplete was received may be used for V.A. credit while repeated for a passing grade, provided the veteran's cumulative GPA indicates overall satisfactory progress to date.

COURSE RESIDENCY REQUIREMENT

A minimum of 25 percent of courses required for graduation in a particular program must be taken at Rowan Technical Institute. No more than 75 percent of required courses can be accepted for transfer credit.

COURSE SUBSTITUTION

A student may request credit for a course required in his program of study based on successful completion of a substitute course. Action upon such substitutions must be initiated by the student's advisor/program head who in turn forwards the request to the appropriate department head and, ultimately, to the Dean of Occupational Education. Consensus of these three Institute officials must be reached to finalize a course substitution. A maximum of five (5) courses may be credited for any student through the course substitution method.

CREDIT BY EXAMINATION

Students who have reason to believe they are proficient in a subject may request credit by examination. The examination may be written, oral, performance, or all of these, and may be scheduled at any time mutually convenient to the examining Program Head and the student. The academic standards for credit by examination will be commensurate with the academic standards for the course; the minimum test to be similar to that which is administered at the conclusion of regularly scheduled courses. Students failing such an examination may not request a second examination until evidence of further study in the subject concerned is presented. No credit by examination will be allowed if the student has previously taken the course for credit and is now attempting to raise his course grade. Decision of the examining instructor will be final.

Credits earned by examination will be entered on the student's permanent record, but quality points will not be awarded for such credit.

DEGREE, DIPLOMA, AND CERTIFICATE REQUIREMENTS

Rowan Technical Institute confers the Associate in Applied Science degree upon students who satisfactorily complete a two-year technical education program. The Diploma is awarded to students who satisfactorily complete a one-year vocational education program. The Certificate is awarded to students who satisfactorily complete a prescribed course of studies less than one year in length.

A student is scholastically eligible for graduation when he has satisfied the specific requirements of the Institute and the program in which he is enrolled, and has earned a cumulative grade-point average of at least 2.0.

GRADING

Rowan Technical Institute operates on a quality point system and each student's academic standing is established by his "Grade-Point Average" (called GPA). To determine this grade-point average, numerical values called "quality points" are assigned to each grade.

Each student will receive mid-quarter grades indicating his progress in each course. Mid-quarter grades are primarily for the information and guidance of the student and are not entered on the permanent record.

Final examinations will be scheduled for all courses taught. Ordinarily, every student will take the final examination for each course in which he is enrolled. However, he may be exempted from the final examination in a particular course if — in the opinion of the instructor — he has demonstrated excellent performance on course work prior to the final examination.

At the end of each quarter the student will receive final grades based on the following systems:

LETTER GRADE	NUMERICAL GRADE	EXPLANATION	QUALITY POINTS FOR CREDIT
A	93-100	Excellent	4 quality points per qtr. hr.
B	85-92	Good	3 quality points per qtr. hr.
C	77-84	Average	2 quality points per qtr. hr.
D	70-76	Below Average	1 quality point per qtr. hr.
F	Below 70	Failed	0 quality points per qtr. hr.
W		Withdrew	Officially withdrew from class
I		Incomplete	Work must be made up by mid-term of the next quarter to obtain credit. If an "I" is not removed within this period, an "F" grade will be given.
AU		Audit	Enrollment as a non-credit student
S		Satisfactory	Satisfactory completion of non-credit courses.
U		Unsatisfactory	Unsatisfactory completion of non-credit courses.

GRADUATION EVENTS

Graduation exercises to award degrees, diplomas, and certificates are held at the end of the Summer Quarter. The specific date of graduation is listed in the Calendar of Events.

GRADUATION HONORS

A student who has earned a quality point ratio of 3.0 of a possible 4.0 in completing his course of study will graduate "With Honors". Those students who earn a 3.5 of a possible 4.0 will graduate "With High Honors".

OUTSTANDING STUDENT AWARDS

These awards are made to the graduates who have distinguished themselves by being most outstanding in terms of scholastic achievement, performance, and maturity of purpose during their program of instruction at Rowan Technical Institute. One student may be recognized for each program.

W. A. SWING MEMORIAL AWARD

The W. A. Swing Memorial Award is presented to recognize the graduating student in Radiologic Technology who has demonstrated professionalism, dedication, the desire to succeed and superior performance to the limit of his/her capabilities.

SCHEDULE CHANGES

At the beginning of every quarter there is a period for students to change schedules and to drop and add courses. The time limit for such changes appears in the CALENDAR OF EVENTS. All schedule changes are completed in the Student Personnel Office.

SCHOLASTIC HONORS

To honor outstanding students, an Honors List is published after each quarter. To qualify for the Honors List, a student must take a minimum work load of 12 quarter hours and maintain at least a 3.0 ("B") average with no grade lower than "C".

SCHOLASTIC PROBATION

A full-time student (a student carrying 12 credit hours or more) failing to maintain a cumulative grade-point average of 2.0 ("C") will be placed on probation for the next quarter. Should the student fail to maintain a 2.0 cumulative grade-point average, he will be required to take a reduced course load. The program advisor will determine what action will be taken. He may refer the student to the department head or Student Personnel.

SCHOLASTIC STANDARDS

Students are required to maintain satisfactory scholastic standards. At the end of each quarter an assessment shall be made of each student's total scholastic record in accordance with the grading system.

STUDENT RECORD CONFIDENTIALITY

A student's record is considered a confidential document and as such will be maintained in accordance with policies stated in the Student Personnel Procedures Manual. No part of the student's permanent record shall be released to any person or agency outside the Institute without the written consent of the student. Access to his record is guaranteed every student subject only to reasonable regulation as to time, place, and supervision.

TRANSFER OF CREDITS

Any incoming student may request a transfer of course credits earned previously at some other institution and other programs within the Institute. The transmittal device to establish transfer credit ordinarily will be an official transcript requested by the student to be mailed directly from the transferring institution to the Student Services Division of Rowan Technical Institute. Passing grades (D or better) only will be granted transfer credit and only those courses applicable to the desired program of study at the Institute will be accepted. Quality points previously awarded for grades on course credits transferred to Rowan Technical Institute will be used in computing a student's Grade Point Average (G.P.A.).

Ordinarily, full credit will be transferred for similar courses if the number of credit hours in the two courses under comparison are the same, even if semester hours need to be converted to quarter hours.

Similarity of course content and granting of transfer credit shall be determined through evaluation by the Director of Admissions and Records, who shall coordinate all activities involving transfer credit. The Dean of Occupational Education shall give final approval of all transfers of credit.

Any of the above regulations may be waived by consensus of the Deans of Student Services and Occupational Education, if such action is judged to be in the best interest of the student.

Transfers of course credits between the following categories of courses — college parallel, technical, vocational — should not be made directly. Rather, the *credit by examination* procedure should be utilized. However, certain transfers may be made at the discretion of the Director of Admissions and Records in coordination with the appropriate program head.

This policy becomes effective January 3, 1977, and regulates the granting of transfer credit for all students entering on or after that date.

WITHDRAWAL PROCEDURE

Students desiring to withdraw from the Institute or a specific course should contact the Office of Student Personnel or his faculty advisor for an exit interview and completion of the necessary forms for official withdrawal.

Any official withdrawal from the end of the course change period through the forty-fifth day of instruction will result in a grade of "W"

(Withdrew). From the 46th through the 55th day of instruction, any withdrawal will result in a grade of "F".

"W" — Appears on the student's transcript but is not considered as hours attempted in G.P.A.

Students may be transferred to Pre-Curriculum Studies up to the forty-fifth day of instruction without penalty of "F" in averaging their grade point average.

TECHNICAL EDUCATION

Associate Degree Nursing
Business Administration
Criminal Justice
Drafting & Design Technology
Early Childhood Education
Electrical Engineering Technology
Electronic Data Processing — Business
Electronics Engineering Technology
Executive Secretarial Science
Fire Protection Technology
Fire Science Technology
Industrial Management Technology
Industrial Safety & Health Technology
Manufacturing Engineering Technology
Marketing & Retailing Technology
Medical Secretarial Science
Radiologic Technology

ASSOCIATE DEGREE NURSING PROGRAM

The objective of the Associate Degree Nursing program is to make available to qualified persons the opportunity to prepare to become a Registered Nurse at minimal expenses, and within a minimum amount of time.

Opportunities are provided each student to acquire both liberal and specialized technical education.

During the two year period, students take courses in nursing and related subjects at the institute. They also receive a wide range of guided nursing experiences in hospital settings.

Graduates of the program are eligible to take the State Board Examination. A passing score entitles the individual to receive a license and use the legal title of Registered Nurse.

ASSOCIATE DEGREE NURSING PROGRAM

(T-059)

Suggested Sequence of Required Courses

Course Title			Hours Per Week		Quarter Hours
			Class	Lab.	Credit
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
BIO	105	Human Anatomy and Physiology I	3	2	4
NUR	101	Fundamentals of Nursing I	4	9*	7
PSY	101	General Psychology I	3	0	3
NUR	100	Orientation	2	0	2
			15	11	19
SECOND QUARTER (WINTER)					
ENG	104	Technical Composition for Nurses	3	2	4
BIO	106	Human Anatomy and Physiology II	3	2	4
NUR	102	Fundamentals of Nursing II	4	9*	7
PSY	102	General Psychology II	3	0	3
			13	13	18
THIRD QUARTER (SPRING)					
PSY	103	Child Growth and Development	3	0	3
NUR	109	Nutrition	3	0	3
BIO	104	Microbiology	4	2	5
NUR	103	Maternal and Child Care	4	12*	8
			14	14	19
FOURTH QUARTER (SUMMER)					
NUR	201	Nursing Care in Physical & Mental Illness I	5	15*	10
NUR	104	Pharmacology	3	0	3
PSY	201	Abnormal Psychology	5	0	5
			13	15	18
FIFTH QUARTER (FALL)					
NUR	202	Nursing Care in Physical & Mental Illness II	5	18*	11
SSC	201	Social Science I	3	0	3
ENG	204	Oral Communications	3	0	3
			11	18	17
SIXTH QUARTER (WINTER)					
NUR	204	Nursing Care in Physical & Mental Illness III	5	15*	10
NUR	205	Nursing Seminar	4	0	4
SSC	202	Social Science II	3	0	3
			12	15	17
SEVENTH QUARTER (SPRING)					
NUR	207	Nursing Problems	4	18*	10
NUR	203	Nursing History and Trends	3	0	3
SSC	205	American Institutions	3	0	3
NUR	206	Peer Tutoring	3	0	3
			13	18	19

*Indicates manipulative laboratory.

BUSINESS ADMINISTRATION

The specific objectives of the Business Administration curriculum are to develop: (1) Understanding of the principles of organization and management in business operations; (2) Understanding our economy through study and analysis of the role of production and marketing; (3) Knowledge in specific elements of accounting, finance, and business law; (4) Understanding and skill in effective communication for business; (5) Knowledge of human relations as they apply to successful business operations in a rapidly expanding economy.

The graduate of the Business Administration curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These duties might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculations, adjusting complaints, operating various office machines, and assisting managers in supervising. Positions are available in businesses such as advertising, banking, credit, finance, retailing, wholesaling, hotel, tourist and travel industry, insurance, transportation, manufacturing, and communications.

BUSINESS ADMINISTRATION

(T-018)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
BUS	100	Orientation to Business Education	2	0	2
ENG	101	Grammar and Composition	3	0	3
BUS	102	Typewriting	2	3*	3
BUS	110	Office Machines	1	2	2
BUS	101	Introduction to Business	5	0	5
MAT	100	Essentials of Mathematics	5	0	5
			18	5	20
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	110	Business Mathematics	5	0	5
BUS	115	Business Law	3	0	3
ECO	102	Economics	3	0	3
EDP	104	Introduction to Data Processing Systems	3	2	4
			17	2	18

THIRD QUARTER (SPRING)

BUS	120	Accounting	5	2	6
ENG	103	Technical Report Writing	3	0	3
BUS	232	Sales Development	3	0	3
BUS	116	Business Law	3	0	3
ECO	104	Economics	3	0	3
			17	2	18

FOURTH QUARTER (SUMMER)

BUS	272	Principles of Supervision	4	0	4
PSY	206	Applied Psychology	3	0	3
BUS	211	Advanced Office Machines	2	2	3
BUS	243	Advertising	3	2	4
EDP	211	RPG Programming***	3	2	4
			15	6	18

FIFTH QUARTER (FALL)

BUS	121	Partnership Accounting	5	2	6
ENG	204	Oral Communications	3	0	3
BUS	239	Marketing	5	0	5
BUS	123	Business Finance	3	0	3
		Elective**	3	0	3
			19	2	20

SIXTH QUARTER (WINTER)

BUS	122	Corporation Accounting	5	2	6
ENG	206	Business Communications	3	0	3
BUS	235	Business Management I	3	0	3
BUS	229	Taxes	3	2	4
BUS	124	Business Finance	3	0	3
			17	4	19

SEVENTH QUARTER (SPRING)

BUS	250	Business Applications Seminar	3	0	3
SSC	205	American Institutions	3	0	3
BUS	125	Statistics	2	2	3
BUS	236	Business Management II	3	0	3
		Electives**			6
					18

*Indicates manipulative laboratory.

**Elective courses must be selected with advisor's approval from the associate degree curriculum. Each student must take an additional accounting course as one of his electives.

*** A different programming language may be substituted with advisor's approval.

CRIMINAL JUSTICE

The Criminal Justice Curriculum provides indepth instruction for persons who desire a career in law enforcement or corrections. In the last decade these specialty areas have evolved into highly complex professions requiring a variety of skills and special knowledge in criminal law, counseling, surveillance, criminalistics, psychology, sociology, and tactics.

This curriculum is designed with a core of courses to afford the student the opportunity to acquire basic skills and knowledge, then to specialize in either law enforcement or corrections. The law enforcement option provides opportunity for study in such specialized areas as criminal law, criminalistics, investigation, traffic enforcement and weaponry. The corrections option provides opportunity for study in such specialized areas as counseling, correction law, rehabilitation, paroles, probation and administration of confinement facilities. Both curriculums provide instruction to assist the individual in meeting minimum standards examination requirements for employment.

Employment opportunities exist in several different fields in law enforcement and corrections. A law enforcement graduate can find employment with law enforcement agencies as an officer, administrator, special investigator, lab technician, communications expert, or in research. A corrections graduate can find employment with a penal institution, a probation board, or with a board of parole as a counselor, administrator, or consultant.

CRIMINAL JUSTICE — CORRECTIONS TECHNOLOGY

(T-129)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
MAT	133	Criminal Justice Mathematics	5	0	5
CJC	101	Introduction to Criminal Justice	5	0	5
PSY	150	Interpersonal Relations	3	0	3
HED	101	Physical Conditioning I	0	3*	1
			16	3	17
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
POL	101	American National Government	5	0	5
PSY	151	Applied Psychology in Human Relations	3	0	3
CJC	102	Criminology	5	0	5
CJC	115	Criminal Law	3	0	3
			19	0	19
THIRD QUARTER (SPRING)					
ENG	204	Oral Communications	3	0	3
POL	102	State and Local Government	5	0	5
CJC	125	Due Process	5	0	5
CJC	110	Juvenile Delinquency	5	0	5
HED	102	Physical Conditioning II	0	3*	1
			18	3	19
FOURTH QUARTER (SUMMER)					
ENG	103	Technical Report Writing	3	0	3
CJC	212	Drugs	3	2	4
SSC	111	Social Problems	3	0	3
PSY	229	Abnormal Psychology	3	0	3
CJC	203	Corrections Survey	3	0	3
CJC	241	Minimum Standards I (Corrections)	5	3*	6
			20	5	22
FIFTH QUARTER (FALL)					
PSY	203	Adolescent Psychology	3	0	3
CJC	209	Correction Law	3	0	3
CJC	230	Counseling	3	0	3
HED	103	Physical Conditioning III	0	3*	1
CJC	243	Minimum Standards II (Corrections)	4	3*	5
EMT	250	Emergency Medical Service I	2	2	3
			15	8	18
SIXTH QUARTER (WINTER)					
CJC	223	Correction Counseling	3	2	4
CJC	204	Paroles, Probation, and Pardons	3	0	3
CJC	224	Rehabilitation	3	0	3
CJC	250	Mental Retardation	3	0	3
CJC	221	Correction Administration	3	0	3
EMT	251	Emergency Medical Service II	2	2	3
			17	4	19
SEVENTH QUARTER (SPRING)					
HED	104	Physical Conditioning IV	0	3*	1
CJC	357	Weapons and Tactics	2	2	3
CJC	206	Community Relations	3	0	3
CJC	207	Confinement Facilities Administration	3	0	3
CJC	234	Community Based Corrections	3	0	3
		Elective	3	0	3
			14	5	16

* Indicates manipulative laboratory.

CRIMINAL JUSTICE — LAW ENFORCEMENT TECHNOLOGY

(T-129)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
MAT	133	Criminal Justice Mathematics	5	0	5
CJC	101	Introduction to Criminal Justice	5	0	5
PSY	150	Interpersonal Relationships	3	0	3
HED	101	Physical Conditioning I	0	3*	1
			16	3	17
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
POL	101	American National Government	5	0	5
PSY	151	Applied Psychology in Human Relations	3	0	3
CJC	102	Criminology	5	0	5
CJC	115	Criminal Law	3	0	3
			19	0	19
THIRD QUARTER (SPRING)					
ENG	204	Oral Communications	3	0	3
POL	102	State and Local Government	5	0	5
CJC	125	Due Process	5	0	5
CJC	110	Juvenile Delinquency	5	0	5
HED	102	Physical Conditioning II	0	3*	1
			18	3	19
FOURTH QUARTER (SUMMER)					
ENG	103	Technical Report Writing	3	0	3
CJC	212	Drugs	3	2	4
CJC	210	Criminal Investigation	5	0	5
CJC	216	Advanced Criminal Law	3	0	3
CJC	240	Minimum Standards I (Law Enforcement)	5	3*	6
			19	5	21
FIFTH QUARTER (FALL)					
CHM	111	General Chemistry I	3	2	4
CJC	201	Motor Vehicle Law	3	0	3
HED	103	Physical Conditioning III	0	3*	1
CJC	242	Minimum Standards II (Law Enforcement)	4	3*	5
EMT	250	Emergency Medical Service I	2	2	3
			12	10	16
SIXTH QUARTER (WINTER)					
CJC	211	Criminalistics	4	3*	5
CJC	220	Police Organization and Administration	5	0	5
CJC	205	Evidence	5	0	5
CJC	217	Patrol Procedures	3	0	3
EMT	251	Emergency Medical Service II	2	2	3
			19	5	21
SEVENTH QUARTER (SPRING)					
HED	104	Physical Conditioning IV	0	3*	1
CJC	357	Weapons and Tactics	2	2	3
CJC	206	Community Relations	3	0	3
CJC	244	Crime Prevention	3	0	3
CJC	208	Crime Scenes — Collection and Preservation of Evidence	2	2	3
CJC	202	Traffic Enforcement	3	0	3
			13	7	16

* Indicates manipulative laboratory.

DRAFTING AND DESIGN TECHNOLOGY

The curriculum for Drafting and Design Technology has been designed to provide optimum specialized technician instruction in a two year program. The courses are arranged in a sequence that gives the student the required technological and specialized courses as they are needed to coordinate his laboratory experiences.

The curriculum is designed to qualify the graduate for performance of duties in the field of mechanical drafting and design requiring the application of technical aspects of engineering principles. As the student develops in drafting skills, mathematics, and related science, a gradual shift is made in the curriculum applying these skills to practical problems in design. Emphasis is placed upon development of abilities to think and plan.

DRAFTING AND DESIGN TECHNOLOGY

(T-043)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar and Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
DFT	101	Technical Drafting I	2	6*	4
MEC	101	Machine Processes	0	6*	2
			11	14	16
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	Technical Drafting II	2	6*	4
MEC	102	Machine Processes	0	6*	2
			13	14	18
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization and Management	3	0	3
DFT	103	Technical Drafting	2	6*	4
			16	8	19
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
DFT	211	Mechanisms	3	2	4
DFT	200	Drafting Analysis	2	6*	4
ENG	204	Oral Communications	3	0	3
PHY	103	Technical Physics III	3	2	4
			14	10	18
FIFTH QUARTER (FALL)					
EGR	201	Industrial Seminar	0	3*	1
DFT	201	Technical Drafting	2	6*	4
DFT	204	Descriptive Geometry	2	6*	4
MEC	105	Statics	3	2	4
CHM	111	General Chemistry I	3	2	4
			10	19	17
SIXTH QUARTER (WINTER)					
EGR	202	Industrial Seminar	0	3*	1
DFT	205	Design Drafting I	2	6*	4
DFT	212	Jig & Fixture Design	2	6*	4
MEC	210	Physical Metallurgy	3	3*	4
MEC	205	Strength of Materials	3	2	4
			10	20	17
SEVENTH QUARTER (SPRING)					
DFT	206	Design Drafting II	4	6*	6
MEC	211	Physical Metallurgy	3	3*	4
MEC	235	Hydraulics and Pneumatics	3	3*	4
ELC	201	Electrical Machinery	3	2	4
EGR	102	Introduction to Computers	3	0	3
			16	14	21

* Indicates manipulative laboratory.

EARLY CHILDHOOD SPECIALIST

The Early Childhood Specialist Curriculum is a two-year program designed to prepare men and women for gainful employment in the fields of Early Childhood Education and Child Development.

The length of the program includes two academic years or seven quarters of study. The curriculum offers students two exit points. Students interested in acquiring the basic skills needed to become a competent assistant in a child care program may complete the first three quarters of the program and receive a certificate as a Child Care Aide. Students who complete the second year of the program will be qualified after additional experience to enter more advanced paraprofessional positions which require greater responsibility and technical competence in child development institutions.

The responsibilities of the Early Childhood Specialist as a paraprofessional are quite varied and require a person with good interpersonal skills and adaptability as well as love for children to function effectively in this position. The major function of the Early Childhood Specialist is the care and guidance of young children. This includes a concern for the mental, social, physical, and emotional growth and development of the child. In a school or a child development center this may include outdoor play, storytelling, language and communication skills, experiences with music, art and dramatic activities, field trips, food preparation and service and other routines.

EARLY CHILDHOOD SPECIALIST

(T-073)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
PSY	104	Human Growth and Development I	3	0	3
EDU	102	Preschool Education	3	2	4
SSC	201	Social Science I	3	0	3
EDU	104	Seminar-Practicum	1	6*	3
EDU	120	Orientation to Early Childhood Education	3	0	3
			16	8	19
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MUS	105	Creative Activities I (Music & Dramatics)	2	2	3
PSY	105	Human Growth and Development II	3	0	3
EDU	107	Instructional Media and Resources	3	2	4
EDU	108	Seminar-Practicum	1	6*	3
BUS	102	Typewriting	2	3*	3
			14	13	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
SCI	109	Science for Young Children	3	0	3
PSY	106	Human Growth and Development III	3	0	3
HED	111	Health and Safety for Young Children	2	0	2
EDU	112	Seminar-Practicum	1	6*	3
EDU	203	Creative Activities II (Art)	3	2	4
			15	8	18
FOURTH QUARTER (SUMMER)					
HED	204	Physical Activities for Children	3	0	3
PSY	202	Introduction to Exceptional Children	3	0	3
ECO	207	Consumer Economics	2	0	2
EDU	205	Seminar-Practicum	1	9*	4
MAT	110	Business Mathematics	5	0	5
			14	9	17
FIFTH QUARTER (FALL)					
ENG	205	Children's Literature	3	2	4
BUS	110	Office Machines	1	2	2
ENG	208	Communications with Children	3	0	3
EDU	209	Creative Activities III (Math)	3	2	4
EDU	210	Seminar-Practicum	1	9*	4
			11	15	17
SIXTH QUARTER (WINTER)					
EDU	211	Parent Education	2	0	2
SSC	203	Marriage and the Family	3	0	3
EDU	213	Creative Activities IV (Language Arts and Social Studies)	3	2	4
EDU	214	Seminar-Practicum	1	9*	4
		Elective	3	0	3
			12	11	17
SEVENTH QUARTER (SPRING)					
PSY	112	Personality Development for Women	3	0	3
EDU	215	Seminar-Practicum	1	15*	6
HED	201	Nutrition	3	0	3
		Elective	3	0	3
			10	15	15

* Indicates manipulative laboratory.

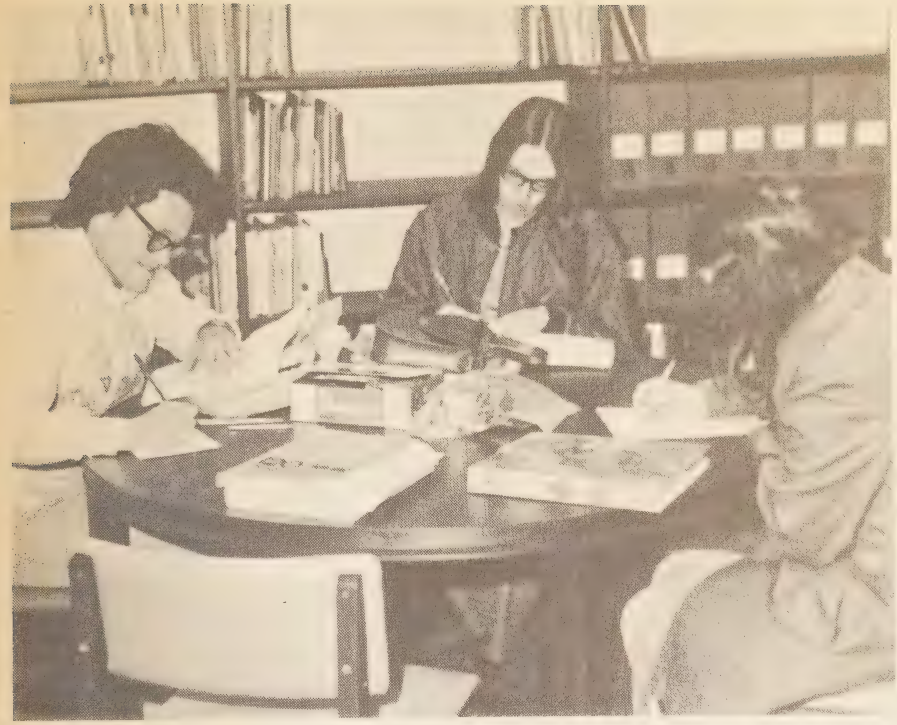
EARLY CHILDHOOD SPECIALIST — CHILD CARE OPTION

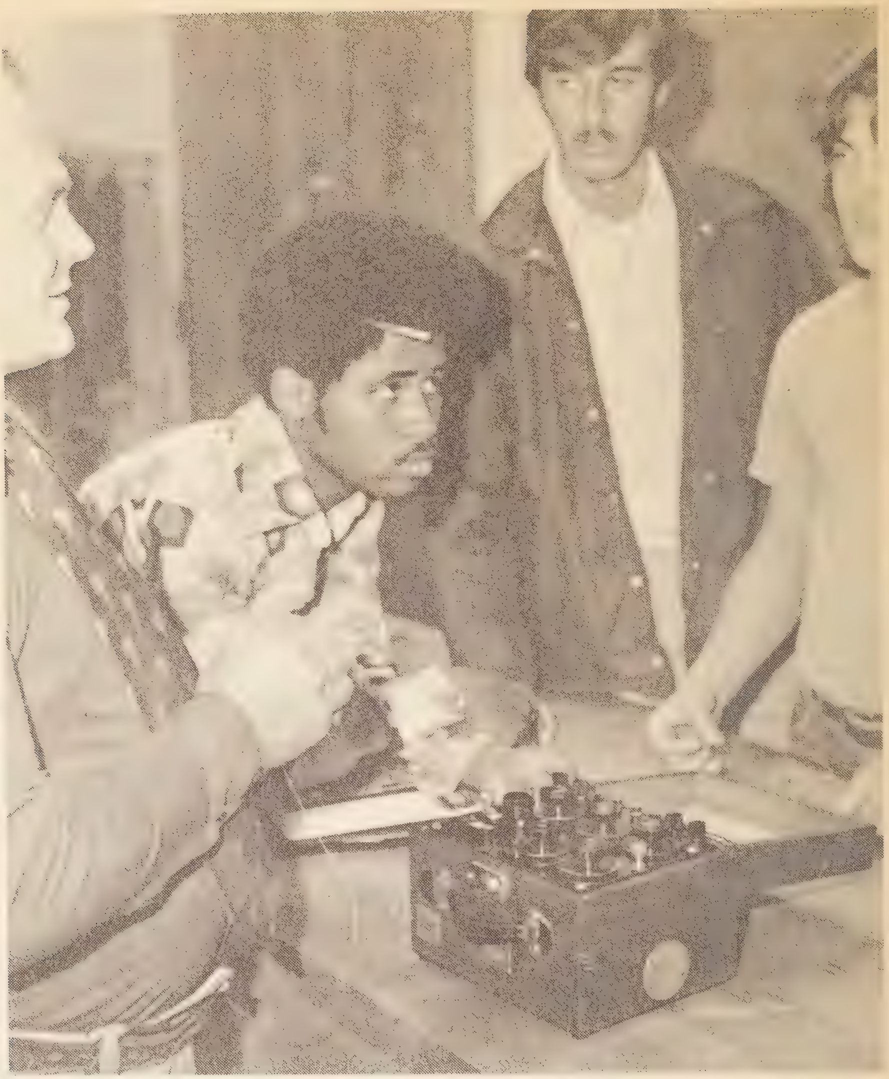
(T-073)

Suggested Sequence of Required Courses

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
PSY	104	Human Growth and Development	3	0	3
EDU	102	Preschool Education	3	2	4
SSC	201	Social Science I	3	0	3
EDU	104	Seminar-Practicum	1	6*	3
EDU	120	Orientation to Early Childhood Education	3	0	3
			16	8	19
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MUS	105	Creative Activities I (Music & Dramatics)	2	2	3
PSY	105	Human Growth and Development II	3	0	3
EDU	107	Instructional Media and Resources	3	2	4
EDU	108	Seminar-Practicum	1	6*	3
BUS	102	Typewriting	2	3*	3
			14	13	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
SCI	109	Science for Young Children	3	0	3
PSY	106	Human Growth and Development III	3	0	3
HED	111	Health and Safety for Young Children	2	0	2
EDU	112	Seminar-Practicum	1	6*	3
EDU	203	Creative Activities II (Art)	3	2	4
			15	8	18

*Indicates manipulative laboratory.





ELECTRICAL ENGINEERING TECHNOLOGY

The objective of this curriculum is to train technicians for jobs in the areas of research, design, development, production, maintenance, and sale of electrical and power generation equipment.

The electrical engineering technician may work as a laboratory technician, an engineering aide in research, design, or development in direct support of an engineer, or as a liaison between the engineer and the skilled craftsman. He may accept a position in maintenance or sales work requiring a strong background in electrical equipment design and operation.

ELECTRICAL ENGINEERING TECHNOLOGY

(T-044)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
MAT	101	Technical Mathematics	5	0	5
DFT	109	Electronics Drafting I	2	3*	3
EGR	101	Introduction to Engineering Technology	1	2	2
ELC	101	Fundamentals of Electricity I	5	6*	7
ENG	101	Grammar and Composition	3	0	3
			16	11	20
SECOND QUARTER (WINTER)					
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	112	Electronics Drafting II	2	3*	3
ELC	102	Fundamentals of Electricity II	5	6*	7
			15	11	19
THIRD QUARTER (SPRING)					
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ELN	105	Electronic Control Devices	5	3*	6
ELC	103	Fundamentals of Electricity III	5	3*	6
			18	8	21
FOURTH QUARTER (SUMMER)					
ENG	102	Technical Composition	3	0	3
ELN	206	Semiconductor Circuit Analysis I	5	3*	6
MAT	201	Technical Mathematics	5	0	5
ELC	215	Electrical Machines	5	3*	6
ELN	101	Electronic Instruments & Measurements	0	3*	1
			18	9	21
FIFTH QUARTER (FALL)					
ENG	103	Technical Report Writing	3	0	3
ELN	207	Semiconductor Circuit Analysis II	5	3*	6
ELN	214	Pulse and Wave Shaping Circuits	3	3*	4
ELC	225	Electrical Controls and Circuits	5	3*	6
			16	9	19
SIXTH QUARTER (WINTER)					
PSY	206	Applied Psychology	3	0	3
ELC	235	Planning Electrical Installations I	3	6*	5
ELC	230	Electrical Power Systems	5	3*	6
MEC	110	Fundamentals of Mechanisms	3	3*	4
			14	12	18
SEVENTH QUARTER (SPRING)					
ENG	204	Oral Communications	3	0	3
ELN	208	Industrial Electronics	5	3*	6
ELC	240	Electrical Analysis and Maintenance	3	3*	4
ELC	236	Planning Electrical Installations	3	6*	5
			14	12	18

*Indicates manipulative laboratory.

ELECTRONIC DATA PROCESSING — BUSINESS

The curriculum is designed to provide the student with the requisite knowledge for holding a job in a number of occupational specialties required by a large computer system including key punch operator, computer operator, programmer, systems analyst, and supervisor. Emphasis in the curriculum is on the computer programming function, but the student is provided also with a theoretical foundation sufficient for him to advance in the data processing profession.

ELECTRONIC DATA PROCESSING — BUSINESS

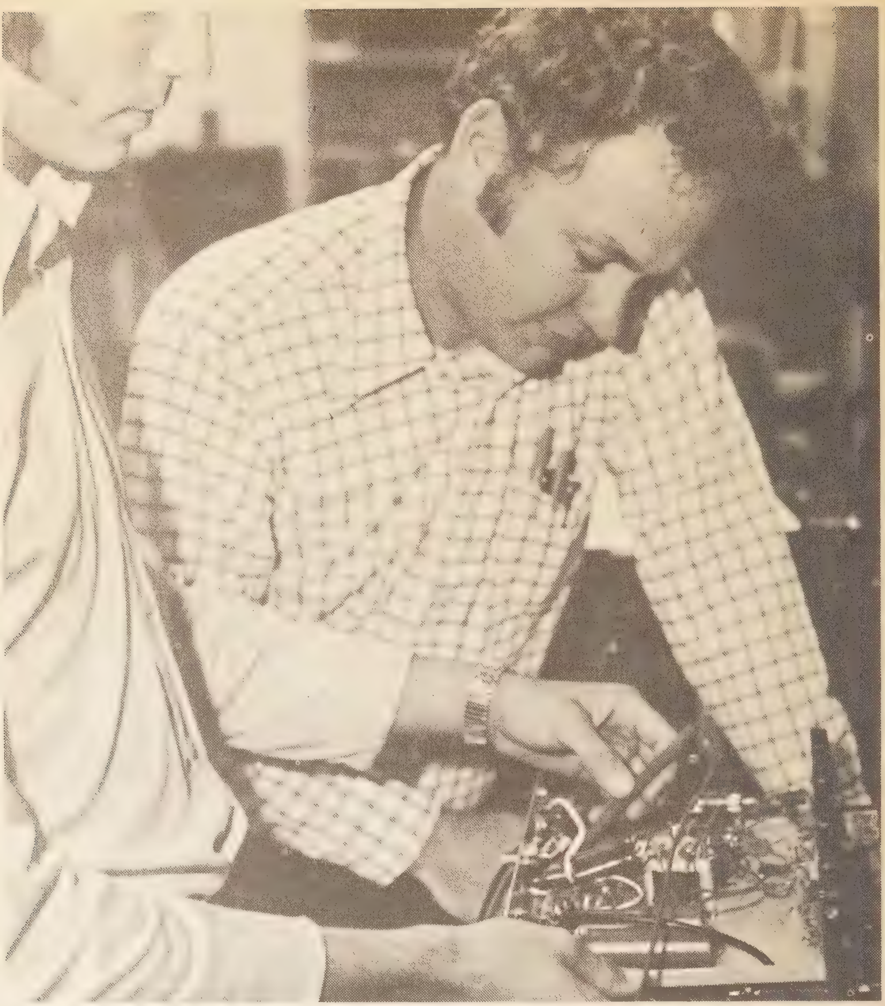
(T-022)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
EDP	104	Introduction to Data Processing Systems	3	2	4
EDP	101	FORTRAN Programming	3	2	4
MAT	100	Essentials of Mathematics	5	0	5
BUS	100	Orientation to Business Education	2	0	2
			16	4	18
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	110	Business Mathematics	5	0	5
EDP	102	COBOL I Programming	2	4	4
ECO	102	Economics	3	0	3
BUS	272	Principles of Supervision	4	0	4
			17	4	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
BUS	120	Accounting	5	2	6
EDP	209	COBOL II Programming	3	2	4
MAT	101	Technical Mathematics	5	0	5
ECO	104	Economics	3	0	3
			19	4	21
FOURTH QUARTER (SUMMER)					
BUS	121	Partnership Accounting	5	2	6
EDP	200	Computer Systems I	2	3*	3
EDP	211	RPG Programming	3	2	4
PSY	206	Applied Psychology	3	0	3
			13	7	16
FIFTH QUARTER (FALL)					
EDP	202	Data Processing Applications I	2	3*	3
EDP	212	Advanced RPG Programming	3	2	4
BUS	122	Corporation Accounting	5	2	6
BUS	101	Introduction to Business	5	0	5
ENG	204	Oral Communications	3	0	3
			18	7	21
SIXTH QUARTER (WINTER)					
EDP	204	Systems and Procedures	3	2	4
BUS	225	Cost Accounting	3	2	4
BUS	235	Business Management I	3	0	3
BUS	125	Statistics	2	2	3
		Elective**	3	0	3
			14	6	17
SEVENTH QUARTER (SPRING)					
EDP	208	PL/1 Programming I	2	4	4
BUS	236	Business Management II	3	0	3
BUS	116	Business Law	3	0	3
		Technical Elective**	6	0	6
			14	4	16

*Indicates manipulative laboratory.

**Elective courses must be selected with advisor's approval from the associate degree curriculum.



ELECTRONICS ENGINEERING TECHNOLOGY

This program provides a basic background in electronics theory and practical applications for business and industry. The electronics technician may start in one or more of the following areas: research, communications, design, development, production, maintenance, or sales. He may be an engineering assistant, a laboratory technician, supervisor, or equipment specialist.

Upon completion of this program, students will find employment opportunities in such fields as radio and television production, radar, sonar telemetering, and other forms of communication such as telephone; industrial and medical measuring, recording, indicating, and controlling devices; navigational equipment; missile and spacecraft guidance; electronic computers; and other types of equipment using vacuum tubes, transistors, and semi-conductor circuits.

ELECTRONICS ENGINEERING TECHNOLOGY

COMMUNICATIONS OPTION

(T-045)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
MAT	101	Technical Mathematics	5	0	5
DFT	109	Electronics Drafting I	2	3*	3
EGR	101	Introduction to Engineering Technology	1	2	2
ELC	101	Fundamentals of Electricity I	5	6*	7
ENG	101	Grammar and Composition	3	0	3
			16	11	20
SECOND QUARTER (WINTER)					
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	112	Electronics Drafting II	2	3*	3
ELC	102	Fundamentals of Electricity II	5	6*	7
			15	11	19
THIRD QUARTER (SPRING)					
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ELN	105	Electronic Control Devices	5	3*	6
ELC	103	Fundamentals of Electricity III	5	3*	6
			18	8	21
FOURTH QUARTER (SUMMER)					
ENG	102	Technical Composition	3	0	3
ELN	206	Semiconductor Circuit Analysis I	5	3*	6
MAT	201	Technical Mathematics	5	0	5
ELC	215	Electrical Machines	5	3*	6
ELN	101	Electronic Instruments & Measurements	0	3*	1
			18	9	21
FIFTH QUARTER (FALL)					
ENG	103	Technical Report Writing	3	0	3
ELN	207	Semiconductor Circuit Analysis II	5	3*	6
ELN	214	Pulse and Wave Shaping Circuits I	3	3*	4
ELN	220	Electronics Systems	5	3*	6
			16	9	19
SIXTH QUARTER (WINTER)					
PSY	206	Applied Psychology	3	0	3
ELN	215	Pulse and Wave Shaping Circuits II	3	3*	4
ELN	230	Basic Television	5	3*	6
MAT	202	Boolean Algebra	2	0	2
ELN	245	Electronics Design Project	0	4	2
			13	10	17
SEVENTH QUARTER (SPRING)					
ENG	204	Oral Communications	3	0	3
ELN	221	Communication Systems	5	3*	6
ELN	240	Fundamentals of Computers	4	3*	5
ELN	231	Fundamentals of Color Television	5	3*	6
			17	9	19

*Indicates manipulative laboratory.

ELECTRONICS ENGINEERING TECHNOLOGY

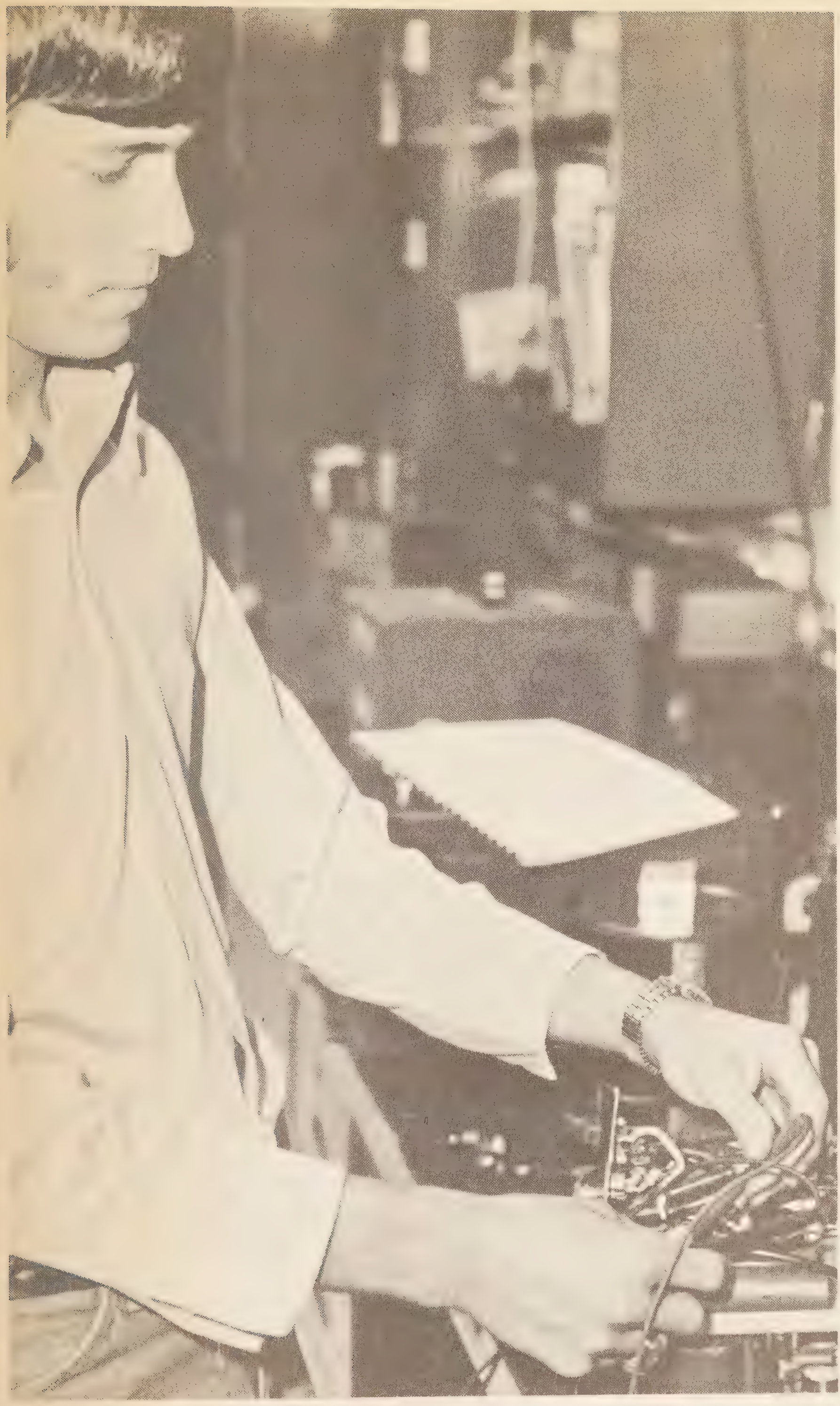
INDUSTRIAL OPTION

(T-045)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
MAT	101	Technical Mathematics	5	0	5
DFT	109	Electronics Drafting I	2	3*	3
EGR	101	Introduction to Engineering Technology	1	2	2
ELC	101	Fundamentals of Electricity I	5	6*	7
ENG	101	Grammar and Composition	3	0	3
			16	11	20
SECOND QUARTER (WINTER)					
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	112	Electronics Drafting II	2	3*	3
ELC	102	Fundamentals of Electricity II	5	6*	7
			15	11	19
THIRD QUARTER (SPRING)					
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ELN	105	Electronic Control Devices	5	3*	6
ELC	103	Fundamentals of Electricity III	5	3*	6
			18	8	21
FOURTH QUARTER (SUMMER)					
ENG	102	Technical Composition	3	0	3
ELN	206	Semiconductor Circuit Analysis I	5	3*	6
MAT	201	Technical Mathematics	5	0	5
ELC	215	Electrical Machines	5	3*	6
ELN	101	Electronic Instruments & Measurements	0	3*	1
			18	9	21
FIFTH QUARTER (FALL)					
ENG	103	Technical Report Writing	3	0	3
ELN	207	Semiconductor Circuit Analysis II	5	3*	6
ELN	214	Pulse and Wave Shaping Circuits I	3	3*	4
ELC	225	Electrical Controls and Circuits	5	3*	6
			16	9	19
SIXTH QUARTER (WINTER)					
PSY	206	Applied Psychology	3	0	3
ELN	215	Pulse and Wave Shaping Circuits II	3	3*	4
MEC	110	Fundamentals of Mechanisms	3	3*	4
MAT	202	Boolean Algebra	2	0	2
ELN	245	Electronics Design Project	0	4	2
			11	10	15
SEVENTH QUARTER (SPRING)					
ENG	204	Oral Communications	3	0	3
ELN	208	Industrial Electronics	5	3*	6
ELN	240	Fundamentals of Computers	4	3*	5
		Technical Elective	3	0	3
			15	6	17

*Indicates manipulative laboratory.



EXECUTIVE SECRETARIAL SCIENCE

The Executive Secretarial Science curriculum is designed to develop the necessary secretarial skills in typing, dictation, transcription, operation of office machines, and terminology for employment in the business world. The special training in secretarial subjects is supplemented by related courses in mathematics, accounting, business law, and personality development.

The graduate of the Executive Secretarial Science curriculum may be employed as a stenographer or a secretary as well as in a variety of other clerical occupations. Stenographers are primarily responsible for taking dictation and transcribing letters, memoranda, or reports. The secretary, in addition to taking dictation and transcribing, is given more responsibility in connection with meeting office callers, screening telephone calls, handling numerous routine duties, private and confidential records, and a variety of business details on her own initiative. Positions are available in a variety of businesses such as insurance companies, banks, marketing institutions, financial firms, as well as all types of manufacturing firms.

EXECUTIVE SECRETARIAL SCIENCE

(T-030)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
BUS	100	Orientation to Business Education	2	0	2
ENG	101	Grammar and Composition	3	0	3
BUS	102	Typewriting	2	3*	3
MAT	100	Essentials of Mathematics	5	0	5
BUS	110	Office Machines	1	2	2
BUS	106	Shorthand	3	2	4
			16	7	19
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
BUS	103	Typewriting	2	3*	3
BUS	107	Shorthand	3	2	4
EDP	104	Introduction to Data Processing Systems	3	2	4
MAT	110	Business Mathematics	5	0	5
			16	7	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
BUS	108	Shorthand	3	2	4
BUS	104	Typewriting	2	3*	3
BUS	120	Accounting	5	2	6
ECO	104	Economics	3	0	3
			16	7	19
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
PSY	112	Personality Development for Women	3	0	3
BUS	183E	Terminology and Vocabulary (Business)	3	0	3
BUS	272	Principles of Supervision	4	0	4
		Elective**	3	0	4
			16	0	16
FIFTH QUARTER (FALL)					
ENG	204	Oral Communications	3	0	3
BUS	206	Dictation and Transcription	3	2	4
BUS	205	Advanced Typewriting	2	3*	3
BUS	121	Partnership Accounting	5	2	6
BUS	115	Business Law	3	0	3
			16	7	19
SIXTH QUARTER (WINTER)					
ENG	206	Business Communications	3	0	3
BUS	207	Dictation and Transcription	3	2	4
BUS	214E	Secretarial Procedures I (Executive)	3	2	4
BUS	209	Machine Transcription	3	2	4
			12	6	15
SEVENTH QUARTER (SPRING)					
BUS	208	Dictation and Transcription	3	2	4
BUS	215E	Secretarial Procedures II (Executive)	3	2	4
BUS	112	Filing	3	0	3
SSC	203	Marriage and the Family	3	0	3
			12	4	14

*Indicates manipulative laboratory.

**Elective courses must be selected with advisor's approval from the associate degree curriculum.

FIRE PROTECTION ENGINEERING TECHNOLOGY

This curriculum provides a sound background in fire protection, fire safety, and related subjects. Specific skills are developed in many phases of the occupation. Students are trained to determine fire and safety hazards and to analyze methods of eliminating hazards, and in protective system design.

Opportunities in the field of fire engineering technology are broad in scope. Employment may be found with insurance companies, industrial firms, governmental agencies, educational organizations, fire equipment manufacturers, research foundations and municipal and state departments. The Fire Protection Engineering Technology curriculum is planned to fill the needs of the individual for employment with these types of organizations.

The fire protection engineering technician inspects various types of occupancies for fire and safety hazards, checks exisiting fire and safety codes and resource materials for methods of eliminating fire and safety problems, and applies principles of protection in a logical sequence to arrive at solutions.

FIRE PROTECTION ENGINEERING TECHNOLOGY

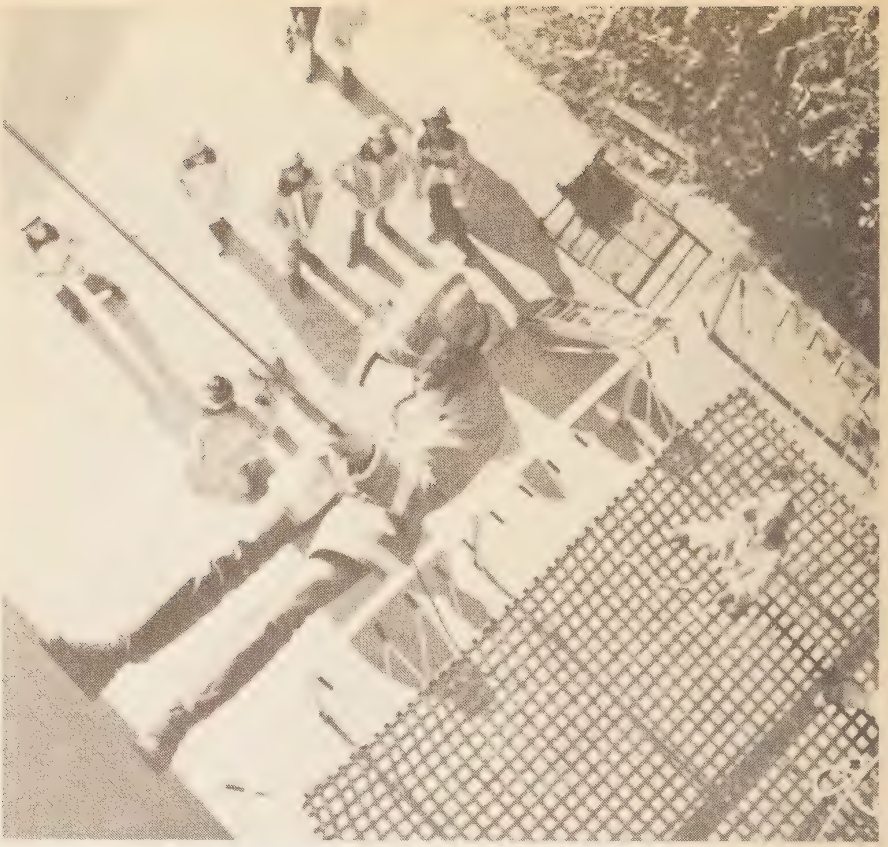
(T-046)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
EMT	250	Emergency Medical Services I	2	2	3
MAT	101	Technical Mathematics	5	0	5
CHM	111	General Chemistry I	3	2	4
ENG	101	Grammar and Composition	3	0	3
FST	101	Introduction to Fire Protection	2	3	3
			15	7	18
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	102	Technical Mathematics	5	0	5
CHM	112	General Chemistry II	3	2	4
SAF	102	Introduction to Industrial Safety	3	0	3
PHY	101	Technical Physics I	3	2	4
			17	4	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
DFT	118	Drafting and Blueprint Interpretation I	1	6*	3
FST	103	Industrial Fire Hazards	3	3*	4
CHM	231	Organic Chemistry	3	3*	4
PHY	102	Technical Physics III	3	2	4
			13	14	18
FOURTH QUARTER (SUMMER)					
ENG	204	Oral Communications	3	0	3
DFT	119	Drafting and Blueprint Interpretation II	1	6*	3
FST	209	Hazardous Materials	3	2	4
FIP	229	Water Hydraulics	3	3*	4
		Elective (200 level safety)			3- 4
					17-18
FIFTH QUARTER (FALL)					
FIP	200	Insurance	3	0	3
FST	107	Fire Protection Codes and Standards	2	3*	3
FST	210	Inspection Principles and Practices	2	3*	3
ELC	205	Applied Electricity	2	6*	4
FIP	233	Water Distribution	3	2*	4
			12	14	17
SIXTH QUARTER (WINTER)					
FIP	246	Portable and Fixed Extinguishing Systems	3	2	4
FIP	244	Fire Alarm Systems	3	0	3
BUS	272	Principles of Supervision	4	0	4
FIP	108	Structural Fire Protection & Material Rating	3	3*	4
PSY	206	Applied Psychology	3	0	3
			16	5	18
SEVENTH QUARTER (SPRING)					
FIP	250	Special Problems in Fire Protection	1	6*	3
FIP	231	Sprinkler and Standpipe Systems	3	3*	4
ISC	201	Industrial Organization and Management	3	0	3
EGR	102	Introduction to Computers	3	0	3
			10	9	13

*Indicates manipulative laboratory

**Elective courses must be selected with advisor's approval from the associate degree curriculum.



FIRE SCIENCE TECHNOLOGY

The rapidly developing age of scientific developments changes the ways of man and continually brings about a need for further changes. The Public Fire Service is no exception.

The opportunities are excellent for the individual with adequate training and ability in Fire Science Technology. Students seeking gainful employment may be hired by government agencies, industrial firms, and business organizations.

Employed persons should have opportunities for positions requiring increased skill and responsibility as they increase their job competence.

Developing fire fighting practice skills is not within the scope of this curriculum. These skills may be readily developed within the local fire department and from Fire Service Training courses available. An individual just entering the Fire Service Field may start as a firefighter at which time he will gain or improve his firefighting skills and an in-depth knowledge of specific equipment. With demonstrated abilities individuals may find positions as fire department officers, municipal or state fire prevention inspectors, or supervisors in industrial plants.

FIRE SCIENCE TECHNOLOGY

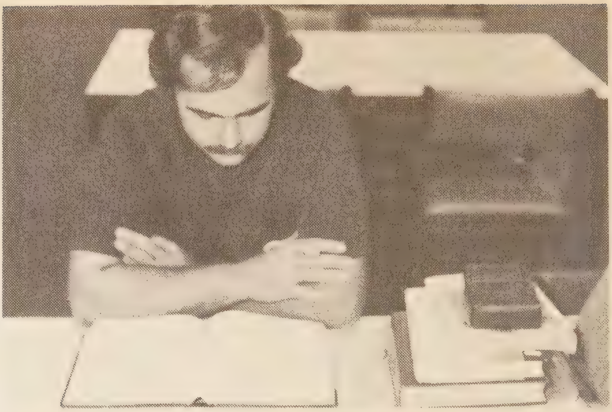
(T-063)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
ENG	101	Grammar & Composition	3	0	3
CHM	111	General Chemistry I	3	2	4
MAT	101	Technical Mathematics	5	0	5
EMT	250	Emergency Medical Service I	2	2	3
FIP	104	Introduction to Fire Science	2	3*	3
HED	101	Physical Conditioning I	0	3*	1
			15	10	19
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
PHY	106	Technical Physics	3	2	4
EMT	251	Emergency Medical Service II	2	2	3
FIP	106	Municipal Fire Protection & Finance	3	0	3
FIP	211	Grading of Fire Defenses	3	0	3
			14	4	16
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
DFT	118	Drafting & Blueprint Interpretation I	1	6*	3
FIP	220	Fire Fighting Strategy	3	2	4
FST	103	Industrial Fire Hazards	3	3*	4
HED	102	Physical Conditioning II	0	3*	1
			10	14	15
FOURTH QUARTER (SUMMER)					
ENG	204	Oral Communications	3	0	3
FIP	230	Hydraulics & Water Distribution Systems	2	3*	3
DFT	119	Drafting & Blueprint Interpretation II	1	6*	3
FIP	206	Hazardous Chemicals & Materials	3	2	4
FIP	202	Introduction to Building Construction	3	0	3
			12	11	16
FIFTH QUARTER (FALL)					
FST	107	Codes & Standards	2	3*	3
FST	210	Inspection Principles & Practices	2	3*	3
ELC	205	Applied Electricity	2	6*	4
FIP	135	Training Programs & Methods of Instruction	2	3*	3
HED	103	Physical Conditioning III	0	3*	1
			8	18	14
SIXTH QUARTER (WINTER)					
FIP	246	Portable & Fixed Extinguishing Systems	3	2	4
FIP	244	Fire Alarm Systems	3	0	3
BUS	272	Principles of Supervision	4	0	4
PSY	206	Applied Psychology	3	0	3
FIP	201	Fire Detection & Investigation	3	3*	4
			16	5	18
SEVENTH QUARTER (SPRING)					
FIP	234	Pump, Sprinkler & Standpipe Systems	3	3*	4
BUS	125	Statistics	2	2	3
FIP	225	Fire Protection Law	3	0	3
FIP	203	Fire Prevention Programs & Public Relations	2	3*	3
HED	104	Physical Conditioning IV	0	3*	1
		General Elective**			3
					17

*Indicates manipulative laboratory.

**Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.



INDUSTRIAL MANAGEMENT TECHNOLOGY

The Industrial Management Technology curriculum is designed to provide the student with two options for his course of study; one is Industrial Management and the other is Industrial Management with a Textile Option.

The Industrial Management curriculum is designed to develop the individual's abilities in business and industrial management, psychology, production methods, and the general and social education that broadens one's perspective. This training should provide one with the opportunity to enter an industrial occupation and, with experience, assume the responsibilities that go with supervisory and mid-management positions in industry.

Employment opportunities in supervision and mid-management have grown extensively during the decade. Supervisory personnel must be concerned daily with human behavior and the psychological factors which affect personnel. They must also be conscious of the responsibilities of their position toward the total economic well-being of the industry.

The future in textiles for a young man with a good grasp on fundamentals and the ability to work with people has never been brighter. Textiles is broader than the name implies. It covers almost every aspect of our daily lives — with applications in household, apparel, transportation, recreation and sports, medicine, environmental improvement and control, personal safety, building and construction, and outer space. As our world becomes more and more complex and technologically oriented, the smooth flow of men, materials, and products continues to grow in importance.

The supervisor or foreman in industry coordinates the activities of workers. His duties may encompass interpreting of company policies to workers, planning production schedules and estimating man hour requirements for job completion, establishing or adjusting work procedures, analyzing and resolving work problems, and initiating or suggesting plans to motivate workers to achieve work goals.

INDUSTRIAL MANAGEMENT TECHNOLOGY

(T-049)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar and Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
EDP	104	Introduction to Data Processing Systems	3	2	4
DFT	101	Technical Drafting I	2	6*	4
			14	10	18
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	Technical Drafting II	2	6*	4
BUS	115	Business Law	3	0	3
			16	8	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization and Management	3	0	3
ECO	104	Economics	3	0	3
			17	2	18
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
BUS	272	Principles of Supervision	4	0	4
		Technical Electives**			5
PHY	103	Technical Physics III	3	2	4
ENG	204	Oral Communications	3	0	3
					19
FIFTH QUARTER (FALL)					
ISC	203	Time & Motion Study	3	3*	4
		Technical Electives**			8
CHM	111	General Chemistry I	3	2	4
					16
SIXTH QUARTER (WINTER)					
ISC	202	Quality Control	3	3*	4
		Social Science Elective**	3	0	3
		Technical Electives**			6
SAF	102	Introduction to Industrial Safety	3	0	3
					16
SEVENTH QUARTER (SPRING)					
MEC	213	Production Planning	3	3*	4
		Technical Elective**			3
ISC	220	Management Problems	3	4	5
		Social Science Elective**	3	0	3
					15

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the associate degree curriculum.

INDUSTRIAL MANAGEMENT TECHNOLOGY

(TEXTILE OPTION)

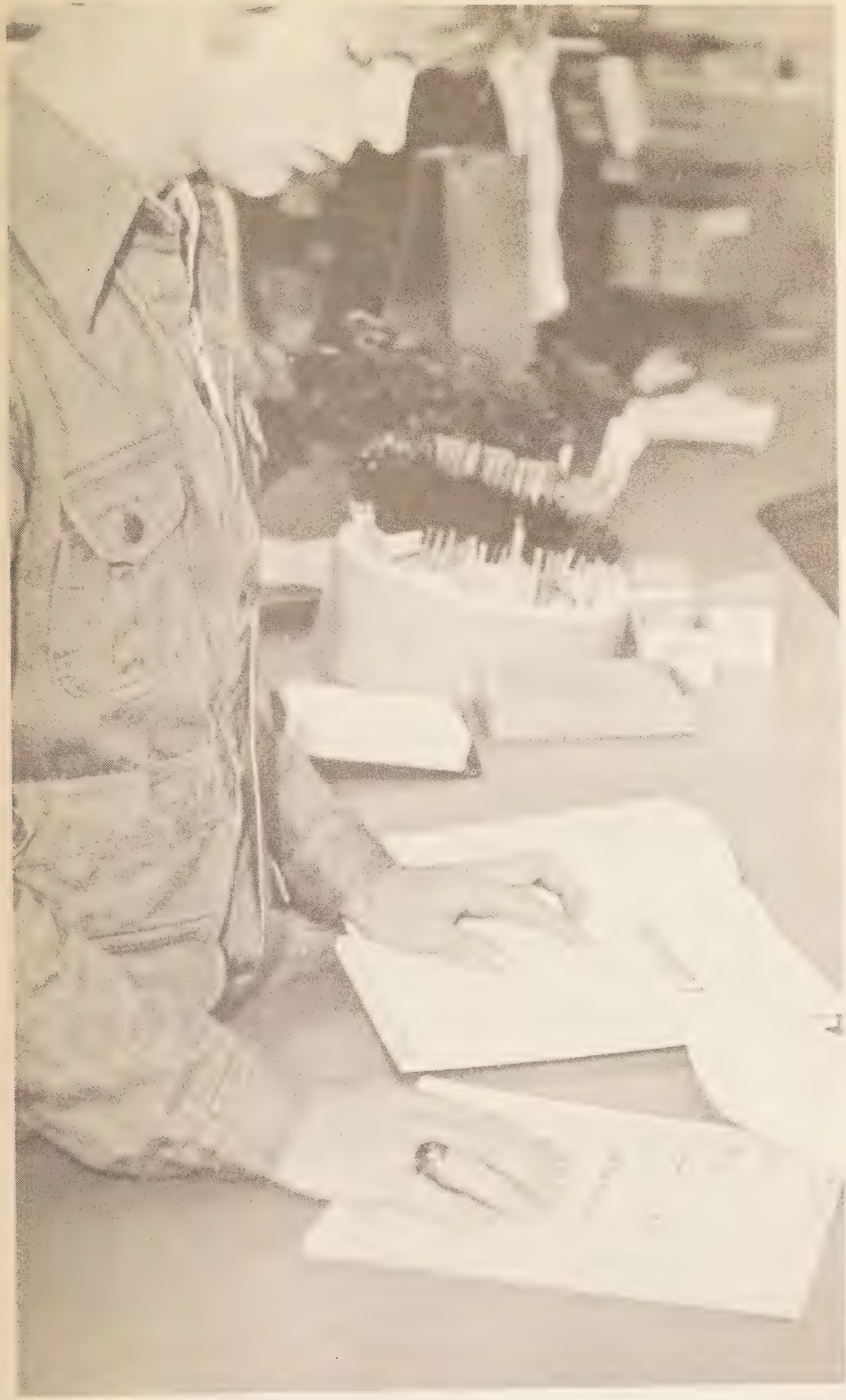
(T-049)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar and Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
TEX	101	Fundamentals of Textiles	3	0	3
DFT	101	Technical Drafting I	2	6*	4
			14	8	17
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	Technical Drafting II	2	6*	4
BUS	115	Business Law	3	0	3
			16	8	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization and Management	3	0	3
ECO	104	Economics	3	0	3
			17	2	18
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
BUS	272	Principles of Supervision	4	0	4
PHY	103	Technical Physics III	3	2	4
ENG	204	Oral Communications	3	0	3
TEX	202	Yarn Forming Systems	5	2	6
			18	4	20
FIFTH QUARTER (FALL)					
ISC	203	Time and Motion Study	3	3*	4
TEX	203	Fabric Forming — Weaving	3	2	4
CHM	111	General Chemistry I	3	2	4
EDP	104	Introduction to Data Processing Systems	3	2	4
			12	9	16
SIXTH QUARTER (WINTER)					
ISC	202	Quality Control	3	3*	4
TEX	204	Fabric Forming — Knitting & Nonconventional Processes	3	2	4
TEX	201	Fiber Science	5	2	6
SAF	102	Introduction to Industrial Safety	3	0	3
			14	7	17
SEVENTH QUARTER (SPRING)					
MEC	213	Production Planning	3	3*	4
ISC	220	Management Problems	3	4	5
		Social Science Elective**	3	0	3
TEX	205	Dyeing and Finishing	5	2	6
			14	9	18

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the associate degree curriculum.



INDUSTRIAL SAFETY AND HEALTH TECHNOLOGY

The Industrial Safety and Health Technology Program stresses the basic principles and practical applications of industrial safety and health engineering. The student is versed in the classical concept of safety and loss prevention and the rapidly growing field of industrial hygiene, including practical application of the principles of recognition, evaluation, and control of occupational health hazards. In addition, the graduate will be able to interpret the Occupational Safety and Health Act of 1970 and adopted safety and health codes and standards and to relate their dictates to specific occupational settings.

Employment opportunities for graduates vary greatly in scope and responsibility. The graduate may be employed in firms ranging from a small manufacturer where he functions as the whole safety department to a vast industrial complex where his duties are highly specialized in some aspect of loss control. Specialized training after he has found employment will qualify him for numerous other types of job opportunities.

INDUSTRIAL SAFETY AND HEALTH TECHNOLOGY

(T-117)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
EMT	250	Emergency Medical Service I	2	2	3
MAT	101	Technical Mathematics	5	0	5
CHM	111	General Chemistry I	3	2*	4
ENG	101	Grammar and Composition	3	0	3
FST	101	Introduction to Fire Protection	2	3	3
			15	7	18

SECOND QUARTER (WINTER)

ENG	102	Technical Composition	3	0	3
MAT	102	Technical Mathematics	5	0	5
CHM	112	General Chemistry II	3	2*	4
SAF	102	Introduction to Industrial Safety	3	0	3
PHY	101	Technical Physics I	3	2*	4
			17	4	19

THIRD QUARTER (SPRING)

ENG	103	Technical Report Writing	3	0	3
DFT	118	Drafting & Blueprint Interpretation I	1	6*	3
FST	103	Industrial Fire Hazards	3	3*	4
CHM	231	Organic Chemistry	3	3*	4
PHY	102	Technical Physics II	3	2	4
			13	14	18

FOURTH QUARTER (SUMMER)

ENG	204	Oral Communications	3	0	3
BIO	108	Human Anatomy and Physiology	3	2	4
DFT	119	Drafting & Blueprint Interpretation II	1	6*	3
FST	209	Hazardous Materials	3	2	4
SAF	211	Construction Safety	3	3*	4
			13	13	18

FIFTH QUARTER (FALL)

FIP	200	Insurance	3	0	3
ELC	205	Applied Electricity	2	6*	4
FST	210	Inspection Principles and Practices	2	3*	3
SAF	205	The Nature and Effects of Occupational Health Hazards (Industrial Hygiene I)	3	2	4
SAF	208	Supervisory Control for Accidents	3	0	3
			13	11	17

SIXTH QUARTER (WINTER)

SAF	201	Principles of Industrial Safety I	3	2	4
BUS	272	Principles of Supervision	4	0	4
SAF	206	Measurement and Evaluation of Occupational Health Hazards (Industrial Hygiene II)	3	2	4
SAF	210	Safety Management	3	0	3
PSY	206	Applied Psychology	3	0	3
			16	4	18

SEVENTH QUARTER (SPRING)

SAF	202	Principles of Industrial Safety II	3	2	4
SAF	207	Control of Industrial Health Hazards (Industrial Hygiene III)	3	2	4
SAF	212	Special Problems in Industrial Safety	1	6*	3
ISC	201	Industrial Organization and Management	3	0	3
			10	10	14

* Indicates manipulative laboratory.

MANUFACTURING ENGINEERING TECHNOLOGY

Persons working in Manufacturing Engineering Technology positions are considered part of management. Their function on the management team involves the processes by which a product is made and the coordination of the production sequence. Persons employed in this fascinating and rewarding field have employment opportunities in three major areas: (1) engineering technology; with job classification as quality control; project engineering and development, inventory and materials control, process planning, production planning and control, time and motion, material handling, and estimating; (2) sales and company representation; with job titles as liaison engineer, sales engineer, and factory representative; (3) operations; with job classifications as assistant shop superintendent, supervisor and group leader. The very nature of this broad curriculum, stressing principles and practices of scientific technology, enables a graduate to compete successfully for a variety of positions.

MANUFACTURING ENGINEERING TECHNOLOGY

(T-050)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar and Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
DFT	101	Technical Drafting I	2	6*	4
MEC	101	Machine Processes	0	6*	2
			11	14	16
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	Technical Drafting II	2	6*	4
MEC	102	Machine Processes	0	6*	2
			13	14	18
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization and Management	3	0	3
MEC	103	Machine Processes	0	9*	3
			14	11	18
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
BUS	272	Principles of Supervision	4	0	4
DFT	211	Mechanisms	3	2	4
ENG	204	Oral Communications	3	0	3
PHY	103	Technical Physics III	3	2	4
			16	4	18
FIFTH QUARTER (FALL)					
EGR	201	Industrial Seminar	0	3*	1
CHM	111	General Chemistry I	3	2	4
ISC	203	Time and Motion Study	3	3*	4
WLD	200	Welding Techniques and Applications	2	3*	3
MEC	200	Metrology	2	3*	3
MEC	105	Statics	3	2	4
			13	16	19
SIXTH QUARTER (WINTER)					
EGR	202	Industrial Seminar	0	3*	1
MEC	210	Physical Metallurgy	3	3*	4
DFT	212	Jig & Fixture Design	2	6*	4
MEC	205	Strength of Materials	3	2	4
ISC	202	Quality Control	3	3*	4
			11	17	17
SEVENTH QUARTER (SPRING)					
MEC	213	Production Planning	3	3*	4
MEC	211	Physical Metallurgy	3	3*	4
MEC	235	Hydraulics and Pneumatics	3	3*	4
ELC	201	Electrical Machinery	3	2	4
EGR	102	Introduction to Computers	3	0	3
			15	11	19

* Indicates manipulative laboratory.

MARKETING AND RETAILING TECHNOLOGY

Marketing and Retailing Technology is a two-year course of study designed to prepare individuals for entry level positions related to sales, advertising, and retailing.

Opportunities for employment are increasing in the Piedmont area. Individuals will be needed to fill additional jobs in the field of marketing, retailing, and advertising. Job opportunities in this field are retail trainees, advertising trainees, copywriters, banking, credit department, finance, hotel, tourist and travel industry, insurance, selling — retail, wholesale, and industrial, also in transportation and communications.

Students who desire to enter the business world will find this course of study profitable and rewarding toward a job in the field of business.

MARKETING AND RETAILING TECHNOLOGY

(T-020)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
ENG	101	Grammar and Composition	3	0	3
BUS	105	Retailing I	3	0	3
MAT	100	Essentials of Mathematics	5	0	5
BUS	101	Introduction to Business	5	0	5
BUS	110	Office Machines	1	2	2
BUS	100	Orientation to Business Education	2	0	2
			19	2	20
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
MAT	110	Business Mathematics	5	0	5
BUS	115	Business Law	3	0	3
ECO	102	Economics	3	0	3
BUS	109	Retailing II	3	0	3
			17	0	17
THIRD QUARTER (SPRING)					
BUS	247	Business Insurance	3	0	3
BUS	116	Business Law	3	0	3
ECO	104	Economics	3	0	3
BUS	120	Accounting	5	2	6
BUS	219	Credit Procedures and Problems	3	0	3
			17	2	18
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
BUS	272	Principles of Supervision	4	0	4
BUS	260	Commercial Design & Display I	3	2	4
		Electives**	6	0	6
			16	2	17
FIFTH QUARTER (FALL)					
ENG	204	Oral Communications	3	0	3
BUS	121	Partnership Accounting	5	2	6
BUS	239	Marketing	5	0	5
BUS	261	Commercial Design and Display II	3	0	3
BUS	102	Typing	2	3*	3
			18	5	20
SIXTH QUARTER (WINTER)					
EDP	104	Introduction to Data Processing Systems	3	2	4
ENG	206	Business Communications	3	0	3
BUS	243	Advertising	3	2	4
BUS	235	Business Management I	3	0	3
BUS	262	Fashions in Retailing	2	2	3
			14	6	17
SEVENTH QUARTER (SPRING)					
BUS	232	Sales Development	3	0	3
BUS	123	Business Finance	3	0	3
BUS	249	Buying and Merchandising	2	2	3
SSC	205	American Institutions	3	0	3
		Electives**	6	0	6
			17	2	18

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the associate degree curriculum.

MEDICAL SECRETARIAL SCIENCE

The Medical Secretarial Science curriculum is designed to develop required skills such as typing, dictation, and transcription, as well as medical terminology and vocabulary. The special training in secretarial subjects is supplemented by needed related courses in mathematics, accounting, business law, personality development, and human relations.

The Medical Secretary may be employed in a variety of positions such as in physicians' offices, private and public hospitals, federal, state, and local health programs, insurance offices, and pharmaceutical firms. The duties of the graduate may include taking dictation, transcribing, and typing letters, memoranda and medical reports; meeting office callers, screening telephone calls, scheduling appointments; maintaining medical records and insurance reports, as well as certain financial records.

MEDICAL SECRETARIAL SCIENCE

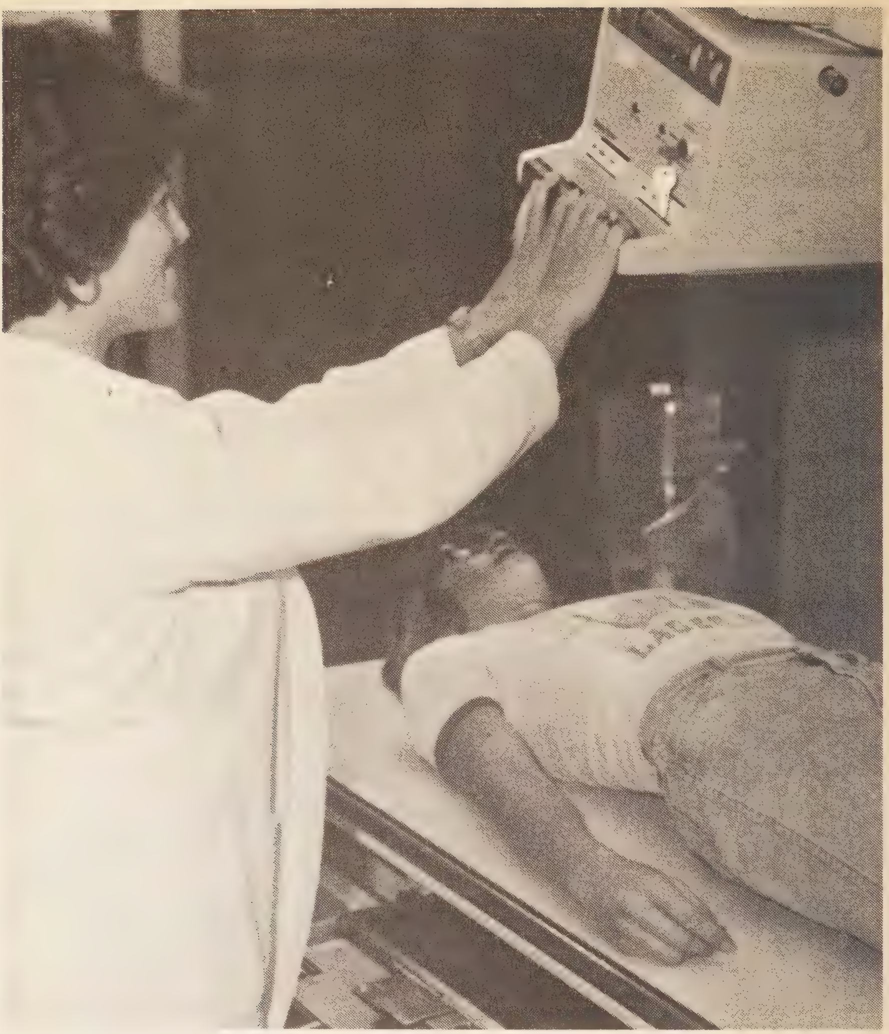
(T-032)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
BUS	100	Orientation to Business Education	2	0	2
ENG	101	Grammar and Composition	3	0	3
BUS	102	Typewriting	2	3*	3
BUS	106	Shorthand	3	2	4
MAT	100	Essentials of Mathematics	5	0	5
BUS	110	Office Machines	1	2	2
			16	7	19
SECOND QUARTER (WINTER)					
ENG	102	Technical Composition	3	0	3
BUS	103	Typewriting	2	3*	3
BUS	107	Shorthand	3	2	4
MAT	110	Business Mathematics	5	0	5
EDP	104	Introduction to Data Processing Systems	3	2	4
			16	7	19
THIRD QUARTER (SPRING)					
ENG	103	Technical Report Writing	3	0	3
BUS	104	Typewriting	2	3*	3
BUS	108	Shorthand	3	2	4
BUS	120	Accounting	5	2	6
BUS	183M	Terminology and Vocabulary (Medical)	3	2	4
			16	9	20
FOURTH QUARTER (SUMMER)					
PSY	206	Applied Psychology	3	0	3
PSY	112	Personality Development for Women	3	0	3
BUS	183E	Terminology and Vocabulary (Business)	3	0	3
BUS	272	Principles of Supervision	4	0	4
		Electives**	3	0	3
			16	0	16
FIFTH QUARTER (FALL)					
ENG	204	Oral Communications	3	0	3
BUS	206	Dictation & Transcription	3	2	4
BUS	205	Advanced Typewriting	2	3*	3
BUS	121	Partnership Accounting	5	2	6
BUS	284M	Terminology and Vocabulary (Medical)	3	2	4
			16	9	20
SIXTH QUARTER (WINTER)					
ENG	206	Business Communications	3	0	3
BUS	207	Dictation & Transcription	3	2	4
BUS	214M	Secretarial Procedures I	3	2	4
BUS	209	Machine Transcription	3	2	4
			12	6	15
SEVENTH QUARTER (SPRING)					
BUS	208	Dictation & Transcription	3	2	4
BUS	215M	Secretarial Procedures II	3	2	4
BUS	112	Filing	3	0	3
SSC	203	Marriage and the Family	3	0	3
			12	4	14

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum



RADIOLOGIC TECHNOLOGY

This program is designed to prepare a person to become a radiologic technologist. Students are trained to take radiographs of bones and body organs for diagnostic purposes and also use radiation as a therapy and treatment for certain diseases. The course of study combines technical and general education courses. The clinical education is carefully planned with hospitals and other community health facilities under the direction and supervision of a registered technologist.

The completion of this two year course (24 months) fulfills the educational requisite for confirmation of the Associate in Applied Science Degree and qualifies the graduate to take the examination by the American Registry of Radiologic Technologists for certification as Registered Technologist in Radiologic Technology.

RADIOLOGIC TECHNOLOGY

(T-061)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
MAT	108	Radiologic Mathematics	3	0	3
BIO	105	Human Anatomy and Physiology I	3	2	4
RDT	101	Radiologic Technology I	4	16*	9
BUS	183R	Terminology and Vocabulary (Radiologic)	3	0	3
PHY	100	Introduction to Physics	3	0	3
PSY	101	General Psychology I	3	0	3
			19	18	25
SECOND QUARTER (WINTER)					
BIO	106	Human Anatomy and Physiology II	3	2	4
PHY	104	Radiologic Physics II	3	0	3
RDT	102	Radiologic Technology II	4	3*	5
RDT	111	Clinical Education	0	16*	5
PSY	102	General Psychology II	3	0	3
ENG	101	Grammar and Composition	3	0	3
			16	21	23
THIRD QUARTER (SPRING)					
ENG	102	Technical Composition	3	0	3
RDT	103	Radiologic Technology III	4	3*	5
RDT	112	Clinical Education	0	24*	8
PHY	105	Radiologic Physics III	3	0	3
RDT	201	Topographic Anatomy	2	0	2
			12	27	21
FOURTH QUARTER (SUMMER)					
RDT	113	Clinical Education	0	40*	13
			0	40	13
FIFTH QUARTER (FALL)					
ENG	103	Technical Report Writing	3	0	3
RDT	204	Radiologic Technology IV	7	3*	8
RDT	215	Clinical Education	0	24*	8
BIO	208	Pathology for Paramedical Personnel	3	0	3
			13	27	22
SIXTH QUARTER (WINTER)					
ENG	204	Oral Communications	3	0	3
RDT	205	Radiologic Technology V	5	3*	6
RDT	216	Clinical Education	0	24*	8
BUS	233	Personnel Management	3	0	3
			11	27	20
SEVENTH QUARTER (SPRING)					
RDT	217	Clinical Education	0	40*	13
			0	40	13
EIGHTH QUARTER (SUMMER)					
RDT	206	Radiologic Technology VI	8	0	8
RDT	218	Clinical Education	0	32*	10
			8	32	18

* Indicates manipulative laboratory

INDIVIDUALIZED
INSTRUCTION
CENTER

INDIVIDUALIZED INSTRUCTION CENTER

The IIC is a service center to the institute whereby a student may advance in a subject which he may either need or choose. The subject may be almost anything from basic arithmetic to a foreign language. A student may receive assistance in his studies from one of the IIC Coordinators.

A student who studies in the IIC may be from the general public or may be a curriculum or pre-curriculum student. He may come to the center entirely on his own or by the advisement of a counselor or an instructor.

Developmental or pre-curriculum course work may be recommended for a student's program of studies if entrance examination scores indicate such is merited in one or more subject areas. Such developmental work may involve assignment to tutoring sessions, programmed materials study, small class sessions with other students having similar needs, or any other educational method judged appropriate by the counselor in his evaluation of the applicant's academic status. The student may be enrolled in one or more developmental subject areas, as indicated by entrance examination scores, in addition to regular curriculum course work. Any combination of studies — both developmental and curriculum — may be prescribed, according to the recommendation of the counselor.

Applicants who need this pre-curriculum course work are urged to complete the necessary work before the curriculum program they want begins (ordinarily each September). Thus, they would be able to begin their regular curriculum course work with no extra requirements on their time. Each student involved in a pre-curriculum course should be able to work with the counselor and other personnel until his success in the regular curriculum program is insured.

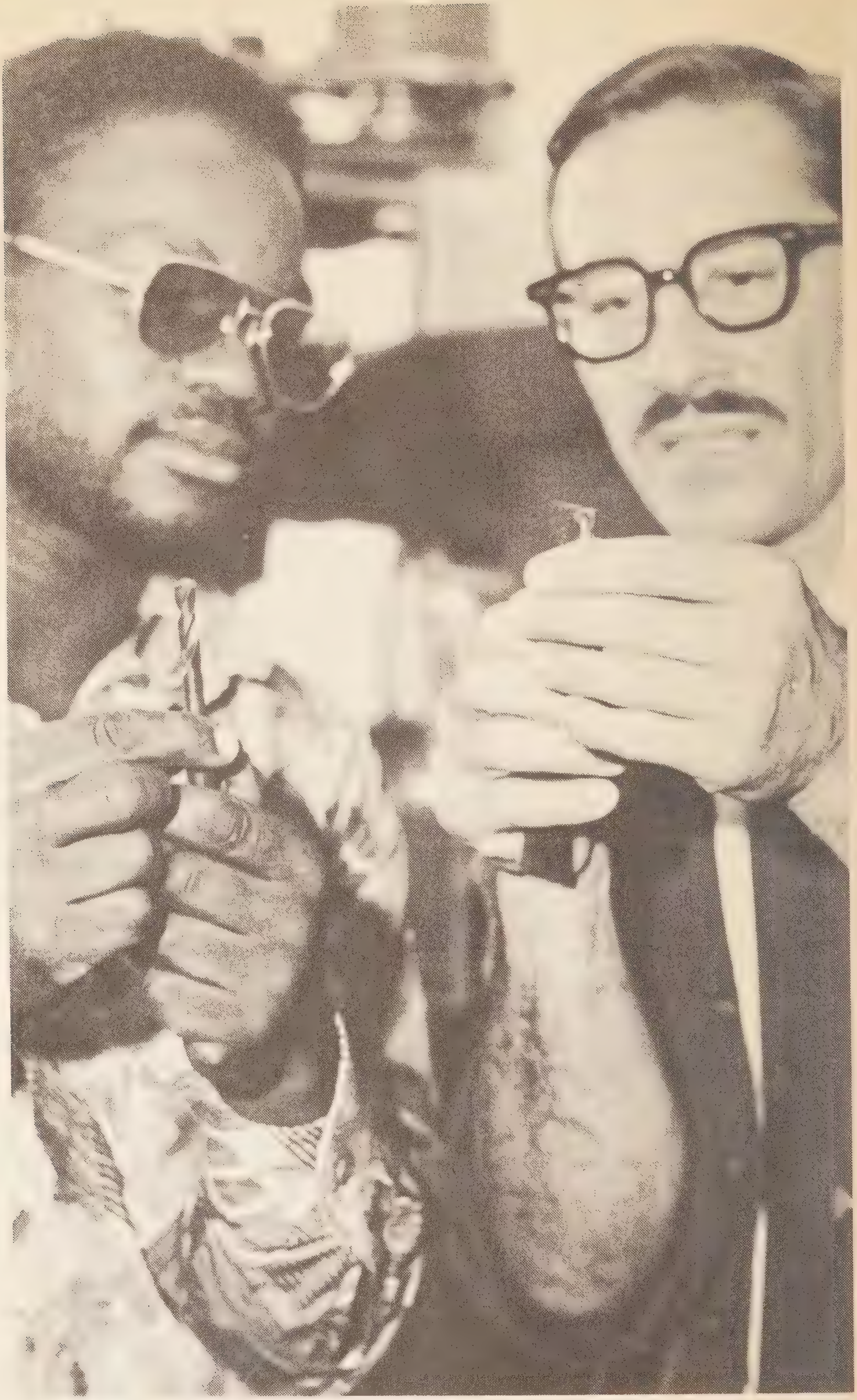
The studying that is done in the IIC may be either independent or guided by the IIC Coordinators. Upon referral by a counselor a student may receive special tutoring. A student may set his own attendance schedule and may study at his own individual pace.

Course work completed in the IIC will be graded in accordance with the Rowan Technical Institute grading system. Quality points earned through completion of IIC courses will be used in computing a student's GPA.

INDIVIDUALIZED AND PRE-CURRICULUM COURSES

(T-099)

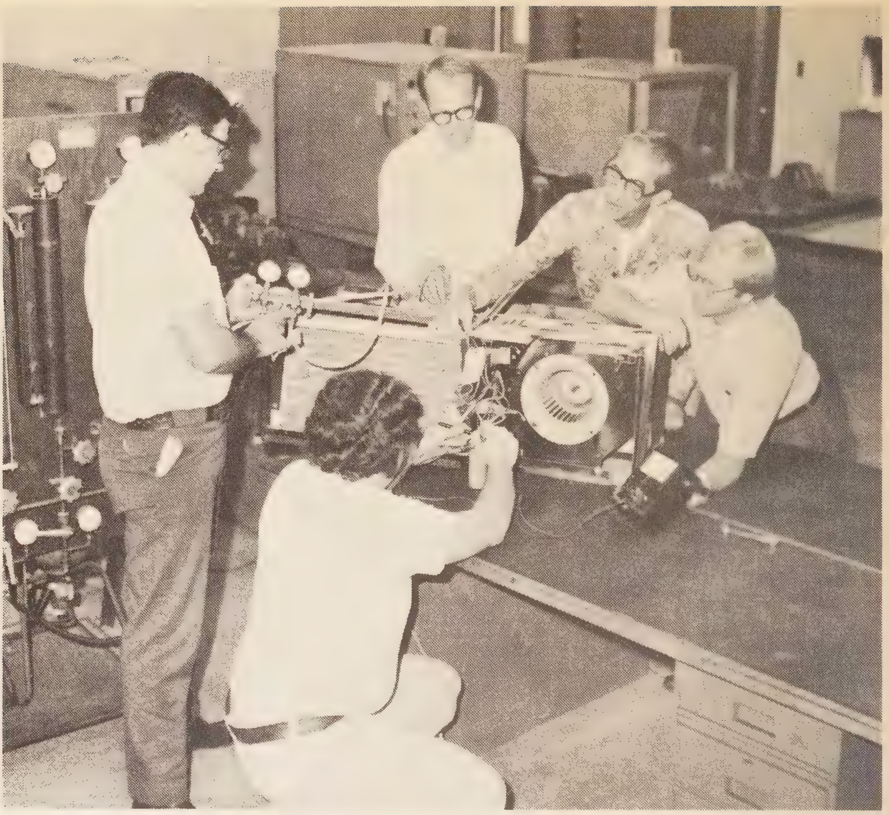
		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
BUS	010	Introduction to Accounting	5	0	5
CHM	011	Introduction to Chemistry I	3	0	3
CHM	012	Introduction to Chemistry II	3	0	3
DFT	010	Introduction to Basic Drafting	5	0	5
DFT	011	Basic Blueprint Reading I	2	0	2
DFT	012	Basic Blueprint Reading II	2	0	2
ELC	011	Electrical Maintenance I	5	0	5
ELC	012	Electrical Maintenance II	5	0	5
ELC	013	Introduction to Direct and Alternating Circuits	4	0	4
ELN	010	Introduction to Basic Electronics	4	0	4
ENG	010	Spelling Improvement	5	0	5
ENG	011	Vocabulary and Reading I	5	0	5
ENG	012	Vocabulary and Reading II	5	0	5
ENG	013	English in Practice	5	0	5
ENG	014	Written Communications	2	0	2
ENG	015	Advanced Reading Skills	4	0	4
ENG	016	Improvement of Reading Speed	4	0	4
ENG	018	Basic Study Skills	4	0	4
FIP	010	Introduction to Basic Safety	1	0	1
MAT	010	Arithmetic I	5	0	5
MAT	011	Arithmetic II	5	0	5
MAT	012	Algebra I	5	0	5
MAT	013	Algebra II	5	0	5
MAT	014	Algebra III	5	0	5
MAT	015	Algebra IV	5	0	5
MAT	016	Plane Geometry	5	0	5
MAT	017	Metric System	1	0	1
MAT	018	Basic Slide Rule Operation	2	0	2
MAT	019	Trigonometry	5	0	5
MEC	010	Introduction to Basic Maintenance Mechanics I	4	0	4
MEC	011	Introduction to Basic Maintenance Mechanics II	4	0	4
MEC	012	Introduction to Basic Hand Tools	2	0	2
PHY	011	Physical Science I	3	0	3
PHY	012	Introduction to Physics	3	0	3
PSY	011	Public Relations	1	0	1
SAF	010	Introduction to Basic Plant Safety	1	0	1
SSC	011	Personal Understanding	2	0	2
SSC	012	Famous Negro Americans	3	0	3
SSC	013	Great Negroes Past and Present	3	0	3
MAT	100	Essentials of Mathematics	5	0	5
MAT	110	Business Mathematics	5	0	5
MAT	1101	Fundamentals of Mathematics	5	0	5
BUS	100	Orientation to Business Education	2	0	2



VOCATIONAL EDUCATION

Air Conditioning & Refrigeration
Automotive Mechanics
Dental Assistant
Electrical Installation & Maintenance
Light Construction*
Machinist Trade
Practical Nurse Education
Welding Trade

**Proposed Program*



AIR CONDITIONING AND REFRIGERATION MECHANICS

The purpose of this curriculum is to provide a broad background of the technical information and skills necessary to the technician in designing, installing, and maintaining refrigeration and conditioning systems.

The curriculum is designed to provide the student with a good foundation in the theory and principles of refrigeration and comfort conditioning and at the same time, to give him a chance to experiment and receive practice in installing, maintaining, and repairing refrigeration and conditioning mechanisms and their controls. In the portion of the time devoted to the laboratory, theory and practice are correlated under the laboratory instructor. In addition, instruction is given in the technical subjects related to this field.

Occupational opportunities open to the graduate of this course of study are found often in the areas of installation, service, inspection, sales, and in the growing fields of truck and trailer refrigeration and automobile air conditioning, also in factory and institution maintenance departments.

AIR CONDITIONING & REFRIGERATION
MECHANICS
(V-024)
Suggested Sequence of Required Courses

Course Title			Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FIRST QUARTER (FALL)					
AHR	1121	Principles of Refrigeration	3	12*	7
MAT	1101	Fundamentals of Mathematics	5	0	5
ENG	1101	Reading Improvement	2	0	2
ORI	1100	Orientation to Vocational Education	2	0	2
PHY	1101	Applied Science	3	2	4
DFT	1104	Blueprint Reading: Mechanical	0	3*	1
			15	17	21
SECOND QUARTER (WINTER)					
AHR	1122	Domestic and Commercial Refrigeration	3	9*	6
AHR	1113	Calculations and Estimating	5	0	5
ELC	1102	Applied Electricity	4	4*	5
DFT	1116	Blueprint Reading: Air Conditioning	1	3*	2
			13	16	18
THIRD QUARTER (SPRING)					
AHR	1123	Principles of Air Conditioning	3	6*	5
AHR	1128	Automatic Controls	3	6*	5
PSY	1101	Human Relations	3	0	3
WLD	1101	Basic Welding	0	3*	1
ENG	1102	Communication Skills I	3	0	3
			12	15	17
FOURTH QUARTER (SUMMER)					
AHR	1124	Air Conditioning and Refrigeration Servicing	3	6*	5
AHR	1126	All Year Comfort Systems	3	6*	5
MEC	1120	Sheet Metal Layout and Fabrication	3	6*	5
BUS	1103	Small Business Operations	3	0	3
			12	18	18

* Indicates manipulative laboratory.

AUTOMOTIVE MECHANICS

This is a one-year program providing a thorough training in the theoretical as well as manual skills in servicing, testing, and diagnosing. All phases of the electrical system, the power plant, the power train, and the hydraulic braking system will be studied.

The courses are arranged in a sequence that gives the student the required technological and special courses as they are needed to coordinate his laboratory experiences.

Emphasis is placed on the mechanical parts and operation of the various automobile units. Trouble shooting and servicing of the live project are also stressed.

Auto Mechanic, Truck and Bus Mechanic, Shop Foreman, Maintenance Supervisor, Dealer Service Manager, Sales Technician, Factory Representative, and Experimental Lab Work are among those occupational opportunities awaiting graduates of the Automotive Mechanics Curriculum.

AUTOMOTIVE MECHANICS

(V-003)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
PME	1100	Fundamentals of Automotive Repair	2	3*	3
PME	1101A	Internal Combustion Engine Fundamentals	2	6*	4
MAT	1101	Fundamentals of Mathematics	5	0	5
ORI	1100	Orientation to Vocational Education	2	0	2
ENG	1101	Reading Improvement	2	0	2
PHY	1101	Applied Science	3	2	4
			16	11	20
SECOND QUARTER (WINTER)					
PME	1102	Engine Electrical & Fuel Systems	4	9*	7
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills	3	0	3
AUT	1125A	Automotive Servicing I	1	3*	2
PME	1101B	Engine Overhaul	1	3*	2
			12	17	18
THIRD QUARTER (SPRING)					
AUT	1121	Braking Systems	2	3*	3
AUT	1123	Automotive Chassis & Suspension	2	6*	4
WLD	1101	Basic Welding	0	3*	1
AUT	1125B	Automotive Servicing II	1	3*	2
AUT	1124A	Basic Power Train Systems	2	3*	3
			7	18	13
FOURTH QUARTER (SUMMER)					
AUT	1124B	Automatic Transmissions	1	3*	2
AHR	1101	Automotive Air Conditioning	2	3*	3
DFT	1101	Schematics and Diagrams: Power Mechanics	0	3*	1
AUT	1125C	Automotive Servicing III	0	6*	2
PSY	1101	Human Relations	3	0	3
BUS	1103	Small Business Operations	3	0	3
			9	15	14

* Indicates manipulative laboratory.

AUTOMOTIVE MECHANICS

(V-003)

Alternate Sequence (B) of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
PME	1100	Fundamentals of Automotive Repair	2	3*	3
MAT	1101	Fundamentals of Mathematics	5	0	5
ORI	1100	Orientation to Vocational Education	2	0	2
ENG	1101	Reading Improvement	2	0	2
AUT	1123	Automotive Chassis & Suspension	2	6*	4
AUT	1121	Braking Systems	2	3*	3
			15	12	19
SECOND QUARTER (WINTER)					
PHY	1101	Applied Science	3	2	4
AUT	1124A	Basic Power Train Systems	2	3*	3
AUT	1125A	Automotive Servicing I	1	3*	2
ENG	1102	Communication Skills	3	0	3
DFT	1101	Schematics and Diagrams: Power Mechanics	0	3*	1
PME	1101A	Internal Combustion Engine Fundamentals	2	6*	4
			11	17	17
THIRD QUARTER (SPRING)					
PHY	1102	Applied Science	3	2	4
AUT	1125B	Automotive Servicing II	1	3*	2
PSY	1101	Human Relations	3	0	3
PME	1102	Engine Electrical & Fuel Systems	4	9*	7
			11	14	16
FOURTH QUARTER (SUMMER)					
AUT	1124B	Automatic Transmissions	1	3*	2
AUT	1125C	Automotive Servicing III	0	6*	2
AHR	1101	Automotive Air Conditioning	2	3*	3
PME	1101B	Engine Overhaul	1	3*	2
WLD	1101	Basic Welding	0	3*	1
BUS	1103	Small Business Operations	3	0	3
			7	18	13

* Indicates manipulative laboratory.

DENTAL ASSISTANT

The purpose of the Dental Assistant Curriculum is to prepare students for working in dental offices as dental assistants. The student learns to render chairside assistance to the dentist, to take X-rays, to care for dental supplies and equipment, and to carry out the clerical procedures of the dental office. Related courses prepare the student for maintaining effective public and patient relations and for understanding scientific principles basic to dental procedures.

The dental assistant prepares patients for examinations and/or treatments, keeps supplies and equipment in readiness, assists the dentist at the chairside, makes appointments, maintains patient records, receives payments, keeps books, and performs other clerical tasks required for efficient operation of the dental office.

DENTAL ASSISTANT PROGRAM

(V-011)

Suggested Sequence of Required Courses

Course Title			Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
DEN	1001	Introduction to Dental Assisting	2	0	2
DEN	1002	Dental Materials	3	9	6
DEN	1003	Oral and Dental Anatomy	4	0	4
BIO	1102	Anatomy & Physiology	3	2	4
BUS	1102	*Typewriting	2	3	3
ENG	1101	Reading Improvement	2	0	2
			16	14	21
SECOND QUARTER (WINTER)					
DEN	1004	Preclinical Sciences	6	0	6
DEN	1012	Dental Roentgenology	2	6	4
DEN	1006	Clinical Procedures I	3	6	5
ENG	1102	Communication Skills I	3	0	3
			14	12	18
THIRD QUARTER (SPRING)					
DEN	1005	Dental Office Management	4	2	5
DEN	1009	Dental Office Practice I	0	12	4
DEN	1007	Clinical Procedures II	5	6	7
DEN	1013	Oral Health Education	2	1	2
ENG	1104	Communication Skills II	3	0	3
			14	21	21
FOURTH QUARTER (SUMMER)					
DEN	1010	Dental Office Practice II	0	30	10
DEN	1011	Dental Assistant Seminar	2	0	2
PSY	1101	Human Relations	3	0	3
			5	30	15

* Credit by examination may be granted.

ELECTRICAL INSTALLATION AND MAINTENANCE

The purpose of the Electrical Installation and Maintenance Program is to train students for entry-level work in a wide cluster of job areas in the electrical field. These job areas include electrical construction in residential, commercial, and industrial occupancies. Another important job area for which the student receives training is industrial electrical maintenance. The student is prepared for these jobs by gaining knowledge in such areas as National Electrical Code, basic electricity, electrical machines, motor control, motor control circuits, industrial electronics, machine shop, welding and many others.

Graduates of this program are employed in nearly every phase of the electrical industry. Some are employed by electric utility companies, some by telephone companies, some are electrical inspectors, many are employed in electrical construction, and many work as maintenance electricians. The opportunities in the electrical field are many and are limited only by the individual's abilities and desires.

ELECTRICAL INSTALLATION AND MAINTENANCE

(V-018)

Suggested Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ENG	1101	Reading Improvement	2	0	2
ORI	1100	Orientation to Vocational Education	2	0	2
MAT	1115	Electrical Math I	5	0	5
PHY	1101	Applied Science	3	2	4
ELC	1124	Residential Wiring	5	9*	8
			17	11	21
SECOND QUARTER (WINTER)					
ELC	1112	Direct and Alternating Current	5	9*	8
MAT	1116	Electrical Math II	5	0	5
ENG	1102	Communication Skills I	3	0	3
PHY	1102	Applied Science	3	2	4
WLD	1101	Basic Welding	0	3*	1
			16	14	21
THIRD QUARTER (SPRING)					
ELC	1113	Alternating Current and Direct Current Machines and Controls	5	9*	8
ELN	1118	Industrial Electronics	3	4	5
PSY	1101	Human Relations	3	0	3
MEC	1112	Machine Shop Processes	1	3*	2
			12	16	18
FOURTH QUARTER (SUMMER)					
ELC	1125	Commercial and Industrial Wiring	5	12*	9
BUS	1103	Small Business Operations	3	0	3
ELC	1115	Basic Motor Control Circuits	0	3*	1
		Elective**			4
					17

* Indicates manipulative laboratory.

** Elective Courses must be selected with advisor's approval.

ELECTRICAL INSTALLATION AND MAINTENANCE

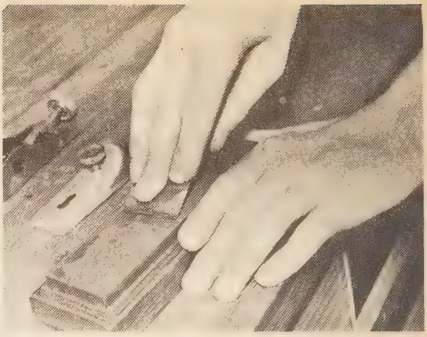
(V-018)

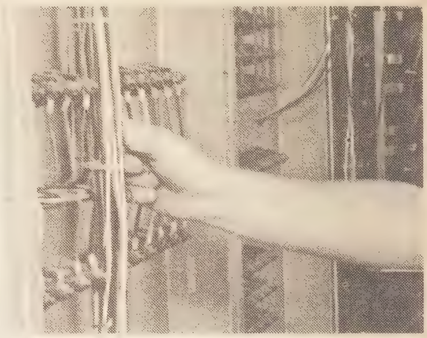
Alternate Sequence (B) of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
ELC	1112	Direct and Alternating Current	5	9*	8
ORI	1100	Orientation to Vocational Education	2	0	2
MAT	1116	Electrical Math II	5	0	5
PHY	1101	Applied Science	3	2	4
ENG	1101	Reading Improvement	2	0	2
			17	11	21
SECOND QUARTER (WINTER)					
ELC	1113	Alternating Current and Direct Current Machines and Controls	5	9*	8
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills I	3	0	3
WLD	1101	Basic Welding	0	3*	1
MEC	1112	Machine Shop Processes	1	3*	2
			12	17	18
THIRD QUARTER (SPRING)					
ELC	1124	Residential Wiring	5	9*	8
PSY	1101	Human Relations	3	0	3
ELN	1118	Industrial Electronics	3	4	5
		Elective**			4
					20
FOURTH QUARTER (SUMMER)					
ELC	1125	Commercial and Industrial Wiring	5	12*	9
ELC	1115	Basic Motor Control Circuits	0	3*	1
BUS	1103	Small Business Operations	3	0	3
		Elective**			4
					17

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval.





LIGHT CONSTRUCTION

Those persons who are interested in construction and maintenance of small buildings should find this program to their liking. Particular emphasis is placed on the construction of residential and small commercial buildings.

The program is designed to prepare the learners to enter employment with preparatory training in the basic building trades of carpentry, masonry, concrete work, and knowledge of plumbing and electrical installation and maintenance.

Instruction is presented in the proper care and use of tools including the steel square and power machinery. Some of the units of study are foundations, house framing, roofing, interior trim, floors, walkways, bricklaying, stone work, plastering and dry-walls, and various window installations. Related instruction is given in electrical and plumbing installation and maintenance, applied mathematics, estimating, blueprint reading and sketching, specifications and contracts, small business operations, and human relations. Instruction is presented in a progressive sequence so that the learner may obtain broad-based preparation in construction by enrolling in the first quarter and continuing through all six quarters to earn a diploma. However, for those who so desire, as few as one quarter's study may be undertaken if the student has had sufficient background to predict success in this training. Certificates will be awarded those successfully completing one to five quarters in the Light Construction curriculum.

LIGHT CONSTRUCTION*

(V-029)

Suggested Sequence of Required Courses

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER — ROUGH CARPENTRY (FALL)					
CAR	1101	Carpentry	5	15*	10
MAT	1101A	Fundamentals of Math	3	0	3
DFT	1110	Blueprint Reading: Building Trades	2	3*	3
ENG	1101	Reading Improvement	2	0	2
			12	18	18
SECOND QUARTER — FINISH CARPENTRY (WINTER)					
CAR	1102	Carpentry	5	15*	10
MAT	1101B	Fundamentals of Math	2	0	2
DFT	1111	Blueprint Reading & Sketching	2	3*	3
PSY	1101	Human Relations	3	0	3
			12	18	18
THIRD QUARTER — MASONRY (SPRING)					
MAS	1101	General Masonry	4	18*	10
DFT	1145	Specifications & Contracts	3	2	4
ISC	1101	Industrial Safety	3	0	3
			10	20	17
FOURTH QUARTER — WELDING (SUMMER)					
WLD	1125	Gas/Arc Cutting & Welding	4	18*	10
ELC	1101	Basic Electricity	2	2	3
DFT	1117	Blueprint Reading: Welding	3	0	3
			9	20	16
FIFTH QUARTER — PLUMBING (FALL)					
PLU	1115	Plumbing Installations	5	15*	10
MAT	1112	Construction Estimating	3	0	3
MEC	1135	Mechanical & Electrical Installations	1	6*	3
			9	21	16
SIXTH QUARTER — CABINETMAKING (WINTER)					
CAR	1103	Cabinetmaking	4	9*	7
CAR	1124	Residential & Commercial Construction	3	6*	5
PAD	1124	Painting & Decorating	3	3*	4
BUS	1103	Small Business Operations	3	0	3
			13	18	19

* Indicates manipulative laboratory.

* Proposed Program

MACHINIST TRADE

Surveys completed recently in North Carolina and locally show that many of the existing industries lack the time and facilities for training enough machinists to meet present and planned needs. Expanding industries already located in our State and new industries under development invariably express the need for skilled machinists who have the background, knowledge, and potential to advance.

This curriculum is designed to give students the opportunity to acquire basic knowledge, skills, and related technical information necessary to gain employment in the machine shop industry. Students will develop skill in bench work, layout, drilling, lathe work, milling, shaping, planing, broaching, and grinding. Operating principles of machine tools, use of measuring and testing instruments, math and blueprint reading are also covered. Through actual shop experience, class assignments, discussions, demonstrations, and experiments, the students become industrially qualified.

The qualified graduate is a skilled metal worker who shapes metal parts by using machine tools and hand tools. His training and experience enable him to plan and carry through all the operations needed in turning out a machined product and to switch readily from one kind of product to another.

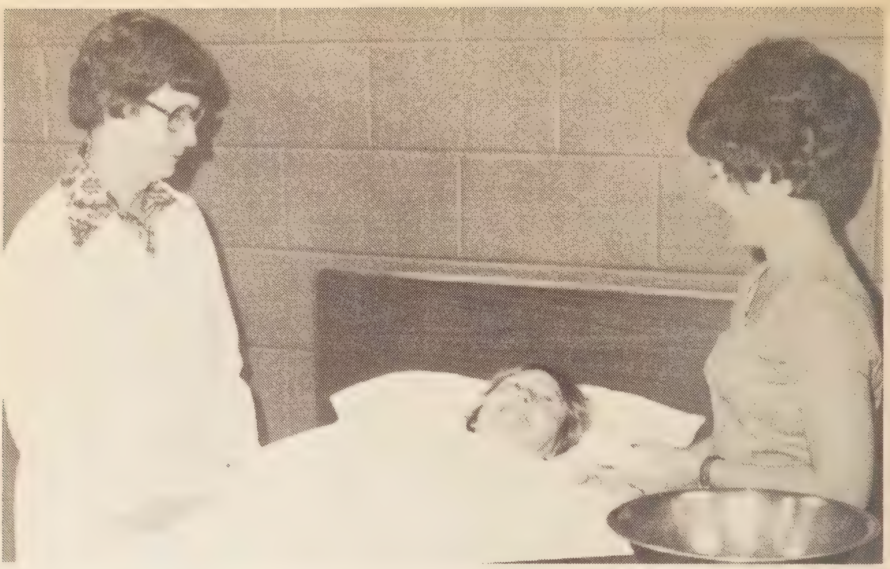
MACHINIST TRADE

(V-032)

Suggested Sequence of Required Courses

Course Title			Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
MEC	1101	Machine Shop Theory and Practice	3	12*	7
MAT	1101	Fundamentals of Mathematics	5	0	5
DFT	1104	Blueprint Reading: Mechanical	0	3*	1
ORI	1100	Orientation to Vocational Education	2	0	2
ENG	1101	Reading Improvement	2	0	2
PHY	1101	Applied Science	3	2	4
			15	17	21
SECOND QUARTER (WINTER)					
MEC	1102	Machine Shop Theory and Practice	3	12*	7
MAT	1103	Geometry	3	0	3
DFT	1105	Blueprint Reading: Mechanical	0	3*	1
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills I	3	0	3
MEC	1110	Numerical Control Theory and Practice I	1	2	2
			13	19	20
THIRD QUARTER (SPRING)					
MEC	1103	Machine Shop Theory and Practice	3	12*	7
MEC	1115	Treatment of Ferrous Metals	2	3*	3
DFT	1106	Blueprint Reading: Mechanical	0	3*	1
MAT	1104	Trigonometry	3	0	3
PSY	1101	Human Relations	3	0	3
MEC	1111	Numerical Control Theory and Practice II	1	2	2
			12	20	19
FOURTH QUARTER (SUMMER)					
MEC	1104	Machine Shop Theory and Practice	3	12*	7
MEC	1116	Treatment of Non-Ferrous Metals	2	3*	3
WLD	1101	Basic Welding	0	3*	1
MAT	1123	Machinist Mathematics	3	0	3
BUS	1103	Small Business Operations	3	0	3
			11	18	17

*Indicates manipulative laboratory.



PRACTICAL NURSE EDUCATION

Increasing population in North Carolina and rapid advancement in medical technology have resulted in increased demand for well-trained persons in health service occupations. To help meet this need, Rowan Technical Institute offers a one-year program of Practical Nurse Education. This program is approved by the North Carolina State Board of Education and the North Carolina State Board of Nursing.

The objective of the Practical Nurse Education program is to make available to qualified persons the opportunity to prepare for the Practical Nurse occupation. As a member of the health care team, the Practical Nurse participates in the care of patients of all ages, in various states of dependency, and with a variety of illness conditions.

During the one-year period of training, students take courses in basic nursing and related subjects at the Institute. They also receive a wide range of guided nursing experience in the hospital setting provided by affiliation with Cabarrus Memorial Hospital and Rowan Memorial Hospital, where students learn patient-centered nursing care.

Graduates of accredited programs of Practical Nurse Education are eligible to take the licensing examination given by the North Carolina State Board of Nursing. This examination is given twice each year, usually in April and in September. A passing score entitles the individual to receive a license and to use the legal title of "Licensed Practical Nurse."

The Licensed Practical Nurse is prepared to function in a variety of situations: hospitals of all types, nursing homes, clinics, doctors' and dentists' offices, and in some localities, public health facilities. In all situations the Licensed Practical Nurse functions under supervision of a registered nurse or a licensed physician.

PRACTICAL NURSE EDUCATION

(V-038)

Suggested Sequence of Required Courses

Course Title	Hours Per Week		Quarter Hours Credit
	Class	Lab.	
FIRST QUARTER (FALL)			
ENG 101 Grammar & Composition	3	0	3
PSY 1101 Human Relations	3	0	3
NUR 1101 Basic Science	3	6	6
NUR 1102 Orientation to Vocational Relationships	2	0	2
NUR 1103 Introduction to Patient Care	6	6*	8
	17	12	22
SECOND QUARTER (WINTER)			
NUR 1104 Basic Principles of Drug Administration	3	0	3
NUR 1105 Care of Patients with Medical-Surgical Conditions I	7	0	7
NUR 1111 Clinical Experience	0	24*	8
ENG 1102 Communication Skills I	3	0	3
	13	24	21
THIRD QUARTER (SPRING)			
NUR 1106 Maternal and Child Care	6	0	6
NUR 1107 Care of Patients with Medical-Surgical Conditions II	6	0	6
NUR 1112 Clinical Experience	0	24*	8
	12	24	20
FOURTH QUARTER (SUMMER)			
NUR 1108 Care of Infants and Children	6	0	6
NUR 1109 Care of Patients with Medical-Surgical Conditions III	4	0	4
NUR 1110 Vocational Relationships	2	0	2
NUR 1113 Clinical Experiences	0	24*	8
	12	24	20

* Indicates manipulative laboratory.

WELDING TRADE

The purpose of this curriculum is to provide a sound training program of the skills involved in welding along with a background of technical information needed by the modern welder.

The curriculum is designed to give the student a sound foundation in the principles, practices, and usages of both gas and electric welding in modern industry. At the same time he will be given ample practice in the welding skills. In the shop, theory and practice are combined under the guidance of an instructor thoroughly competent in the trade. In addition, instruction is given in technical subjects related to welding under the supervision of specialists in the technical fields.

Typical occupational opportunities are found in motor vehicle and equipment plants, aircraft industry, construction companies, independent metal working repair shops, manufacturing firms, and self-employment.

WELDING TRADE

(V-050)

Suggested Sequence of Required Courses

Course Title			Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FIRST QUARTER (FALL)					
WLD	1120	Oxyacetylene Welding and Cutting	3	12*	7
MAT	1101	Fundamentals of Mathematics	5	0	5
DFT	1104	Blueprint Reading: Mechanical	0	3*	1
ORI	1100	Orientation to Vocational Education	2	0	2
MEC	1115	Treatment of Ferrous Metals	2	3	3
ENG	1101	Reading Improvement	2	0	2
			14	18	20
SECOND QUARTER (WINTER)					
WLD	1121	Arc Welding	3	12*	7
MAT	1103	Geometry	3	0	3
DFT	1117	Blueprint Reading: Welding	3	0	3
MEC	1116	Treatment of Non-Ferrous Metals	2	3	3
ENG	1102	Communications Skills	3	0	3
			14	15	19
THIRD QUARTER (SPRING)					
WLD	1124	Pipe Welding	3	12*	7
WLD	1123	Gas Shielded Arc Welding	2	4*	3
PHY	1101	Applied Science	3	2	4
DFT	1118	Pattern Development and Sketching	0	3*	1
PSY	1101	Human Relations	3	0	3
			11	21	18
FOURTH QUARTER (SUMMER)					
WLD	1122	Industrial Cooperative	2	16☆	4
WLD	1128	Welding Power Sources	3	0	3
MEC	1112	Machine Shop Processes	1	3*	2
BUS	1103	Small Business Operations	3	0	3
			9	19	12

* Indicates manipulative laboratory.

☆ Work Experience Hours.

EVENING PROGRAMS

Associate Degree:

Business Administration
Criminal Justice
Drafting and Design Technology
Early Childhood Education
Electrical Engineering Technology
Electronic Data Processing — Business
Electronics Engineering Technology
Executive Secretarial Science
Industrial Management Technology
Industrial Safety and Health Technology
Manufacturing Engineering Technology
Marketing & Retailing Technology
Medical Secretarial Science

Diploma:

Air Conditioning & Refrigeration
Automotive Mechanics
Electrical Installation & Maintenance
Machinist Trade
Welding Trade

Rowan Technical Institute has provided the student with several programs for an evening course of study. These selected programs require a longer period of study for completion to earn a degree or diploma. These sequences will begin and continue quarter-by-quarter to provide the student opportunity for graduation. However, when student enrollment drops below acceptable limits, the class may be terminated, thereby requiring the student to wait until the course can be offered in a subsequent quarter.

BUSINESS ADMINISTRATION

(T-018)

Suggested Evening Sequence of Required Courses

			Class	Lab.	Credit
FALL QUARTER 1976					
BUS	100	Orientation to Business Education	2	0	2
BUS	101	Introduction to Business	5	0	5
MAT	100	Essentials of Mathematics	5	0	5
			12	0	12
WINTER QUARTER 1976-77					
ECO	102	Economics	3	0	3
MAT	110	Business Mathematics	5	0	5
ENG	101	Grammar & Composition	3	0	3
			11	0	11
SPRING QUARTER 1977					
ECO	104	Economics	3	0	3
ENG	102	Technical Composition	3	0	3
BUS	102	Typewriting	2	3*	3
BUS	110	Office Machines	1	2	2
			9	5	11
SUMMER QUARTER 1977					
PSY	206	Applied Psychology	3	0	3
BUS	115	Business Law	3	0	3
EDP	104	Introduction to Data Processing	3	2	4
			9	2	10
FALL QUARTER 1977					
BUS	120	Accounting	5	2	6
ENG	103	Technical Report Writing	3	0	3
BUS	116	Business Law	3	0	3
			11	2	12
WINTER QUARTER 1977-78					
BUS	123	Business Finance	3	0	3
BUS	121	Partnership Accounting	5	2	6
ENG	204	Oral Communications	3	0	3
			11	2	12
SPRING QUARTER 1978					
BUS	122	Corporation Accounting	5	2	6
BUS	124	Business Finance	3	0	3
ENG	206	Business Communications	3	0	3
			11	2	12
SUMMER QUARTER 1978					
BUS	235	Business Management I	3	0	3
BUS	229	Taxes	3	2	4
		Elective**	3	0	3
		Elective**	3	0	3
			12	2	13
FALL QUARTER 1978					
BUS	239	Marketing	5	0	5
SSC	205	American Institutions	3	0	3
BUS	243	Advertising	3	2	4
			11	2	12

WINTER QUARTER 1978-79

BUS	236	Business Management II	3	0	3
BUS	232	Sales Development	3	0	3
EDP	211	RPG Programming	3	2	4
		Elective**	3	0	3
			12	2	13

SPRING QUARTER 1979

BUS	250	Business Applications Seminar	3	0	3
BUS	272	Principles of Supervision	4	0	4
BUS	211	Advanced Office Machines	2	2	3
BUS	125	Statistics	2	2	3
			13	4	13

* Indicates Manipulative Laboratory

** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.

CRIMINAL JUSTICE PROGRAM

The Criminal Justice Program will be conducted in the same sequence as the day program and arranged with the program advisor during registration.

DRAFTING AND DESIGN TECHNOLOGY

(T-043)

Suggested Sequence of Required Courses

FALL QUARTER 1976

			Class	Lab.	Credit
EGR	101	Intro. to Engineering Tech.	1	2	2
ENG	101	Grammar & Composition	3	0	3
MAT	101	Technical Math	5	0	5
			9	2	10

WINTER QUARTER 1976-77

			Class	Lab.	Credit
DFT	101	General Drafting I	2	6*	4
MEC	101	Machine Processes	0	6*	2
ENG	102	Technical Composition	3	0	3
			5	12	9

SPRING QUARTER 1977

			Class	Lab.	Credit
MAT	102	Technical Math	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	General Drafting II	2	6*	4
			10	8	13

SUMMER QUARTER 1977

MEC	102	Machine Processes	0	6*	2
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Math	5	0	5
			8	6	10

FALL QUARTER 1977

PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization & Management	3	0	3
DFT	103	Technical Drafting	2	6*	4
			8	8	11

WINTER QUARTER 1977-78

PSY	206	Applied Psychology	3	0	3
DFT	211	Mechanisms	3	2	4
PHY	103	Technical Physics III	3	2	4
MEC	105	Statics	3	2	4
			12	6	15

SPRING QUARTER 1978

DFT	212	Jig & Fixture Design	2	6*	4
ENG	204	Oral Communications	3	0	3
EGR	201	Industrial Seminar	0	3	1
MEC	205	Strength of Materials	3	2	4
			8	11	12

SUMMER QUARTER 1978

DFT	201	Technical Drafting	2	6*	4
ELC	201	Electrical Machinery	3	2	4
EGR	102	Intro. to Computers	3	0	3
			8	8	11

FALL QUARTER 1978

DFT	204	Descriptive Geometry	2	6*	4
CHM	111	General Chemistry I	3	2	4
DFT	200	Drafting Analysis	2	6*	4
			7	14	12

WINTER QUARTER 1978-79

EGR	202	Industrial Seminar	0	3	1
DFT	205	Design Drafting I	2	6*	4
MEC	210	Physical Metallurgy	3	3*	4
			5	12	9

SPRING QUARTER 1979

DFT	206	Design Drafting II	4	6*	6
MEC	211	Physical Metallurgy	3	3*	4
MEC	235	Hydraulics and Pneumatics	3	3*	4
			10	12	14

* Indicates manipulative laboratory.

EARLY CHILDHOOD EDUCATION

(T-073)

Suggested Evening Sequence of Required Courses

Course Title			Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FALL QUARTER 1976					
PSY	104	Human Growth and Development	3	0	3
ENG	101	Grammar and Composition	3	0	3
EDU	120	Orientation to Early Childhood Education	3	0	3
EDU	104	Seminar-Practicum	1	6*	3
			10	6	12
WINTER QUARTER 1976-77					
PSY	105	Human Growth and Development	3	0	3
ENG	102	Technical Composition	3	0	3
HED	111	Health and Safety for Young Children	2	0	2
EDU	108	Seminar-Practicum	1	6*	3
			9	6	11
SPRING QUARTER 1977					
PSY	106	Human Growth and Development	3	0	3
ENG	103	Technical Report Writing	3	0	3
MUS	105	Creative Activities I (Music & Dramatics)	3	0	3
EDU	112	Seminar-Practicum	1	6*	3
			10	6	12
SUMMER QUARTER 1977					
EDU	203	Creative Activities II (Art)	3	2	4
BUS	110	Office Machines	1	2	2
PSY	202	Introduction to Exceptional Children	3	0	3
EDU	205	Seminar-Practicum	1	9*	4
			8	13	13
FALL QUARTER 1977					
EDU	102	Preschool Education	3	2	4
EDU	107	Instructional Media and Resources	3	2	4
ECO	207	Consumer Economics	2	0	2
EDU	210	Seminar-Practicum	1	9*	4
			9	13	14
WINTER QUARTER 1977-78					
MAT	110	Business Mathematics	5	0	5
EDU	211	Parent Education	2	0	2
SSC	203	Marriage and Family	3	0	3
EDU	214	Seminar-Practicum	1	9*	4
			11	9	14
SPRING QUARTER 1978					
EDU	209	Creative Activities III (Math)	3	2	4
ENG	205	Children's Literature	3	2	4
PSY	112	Personality Development for Women	3	0	3
EDU	215	Seminar-Practicum	1	15*	6
			10	19	17

SUMMER QUARTER 1978

HED	201	Nutrition	3	0	3
EDU	231	Administration and Supervision of Preschool Facility	2	0	2
SSC	201	Social Science	3	0	3
			8	0	8

FALL QUARTER 1978

ENG	208	Communications with Children	3	0	3
PSY	206	Applied Psychology	3	0	3
SCI	109	Science for Young Children	3	0	3
			9	0	9

WINTER QUARTER 1978-79

EDU	213	Creative Activities IV (Language Arts and Social Studies)	3	2	4
HED	111	Health and Safety for Young Children	2	0	2
			5	2	6

SPRING QUARTER 1979

MUS	105	Creative Activities I (Music and Dramatics)	3	0	3
EDU	203	Creative Activities II (Art)	3	2	4
SSC	201	Social Science	3	0	3
			9	2	10

* Indicates manipulative laboratory.

ELECTRICAL ENGINEERING TECHNOLOGY

(T-045)

Suggested Evening Sequence of Required Courses

FALL QUARTER 1976

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
ELC	101A	Fundamentals of Electricity I	3	3	4
MAT	101A	Technical Math I	2	0	2
EGR	101	Introduction to Engineering Technology	1	2	2
			6	5	8

WINTER QUARTER 1976-77

ELC	101B	Fundamentals of Electricity I	2	3	3
MAT	101B	Technical Math I	3	0	3
ENG	101	Grammar and Composition	3	0	3
			8	3	9

SPRING QUARTER 1977

ELC	102A	Fundamentals of Electricity II	3	3	4
MAT	102A	Technical Math II	2	0	2
PHY	101	Technical Physics I	3	2	4
			8	5	10

SUMMER QUARTER 1977

ELC	102B	Fundamentals of Electricity II	2	3	3
MAT	102B	Technical Math II	3	0	3
DFT	109	Electronics Drafting	2	3	3
			7	6	9

FALL QUARTER 1977

ELC	103	Fundamentals of Electricity III	5	3	6
MAT	103	Technical Math III	5	0	5
			10	3	11

WINTER QUARTER 1977-78

ELC	215	Electrical Machines	5	3	6
DFT	112	Electronic Drafting II	2	3	3
			7	6	9

SPRING QUARTER 1978

ELN	105	Electronic Control Devices	5	3	6
PHY	102	Technical Physics II	3	2	4
			8	5	10

SUMMER QUARTER 1978

MAT	201	Technical Math	5	0	5
ENG	102	Technical Composition	3	0	3
ELN	101	Electrical Instruments & Measurements	0	3	1
			8	3	9

FALL QUARTER 1978

ELN	206	Semiconductor Circuit Analysis I	5	3	6
ELN	214	Pulse and Wave Shaping Circuits I	3	3	4
			8	6	10

WINTER QUARTER 1978-79

ELC	225	Electrical Controls and Circuits	5	3	6
PSY	206	Applied Psychology	3	0	3
ENG	103	Technical Report Writing	3	0	3
			11	3	12

SPRING QUARTER 1979

ELC	235	Planning Electrical Installations I	3	6	5
MEC	110	Fundamentals of Mechanisms	3	3	4
			6	9	9

SUMMER QUARTER 1979

ELC	236	Planning Electrical Installations II	3	6	5
ENG	204	Oral Communications	3	0	3
			6	6	8

FALL QUARTER 1979

ELN	208	Industrial Electronics	5	3	6
ELC	240	Electrical Analysis and Maintenance	3	3	4
			8	6	10

WINTER QUARTER 1979

ELC	230	Electric Power Systems	5	3	6
			5	3	6

ELECTRONIC DATA PROCESSING

(T-022)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FALL QUARTER 1976					
ENG	101	Grammar and Composition	3	0	3
EDP	104	Introduction to Data Processing Systems	3	2	4
MAT	100	Essentials of Mathematics	5	0	5
			11	2	12
WINTER QUARTER 1976-77					
MAT	110	Business Mathematics	5	0	5
BUS	100	Orientation to Business Education	2	0	2
ENG	102	Technical Composition	3	0	3
			10	0	10
SPRING QUARTER 1977					
MAT	101	Technical Math	5	0	5
EDP	101	FORTRAN Programming	3	2	4
ENG	103	Technical Report Writing	3	0	3
			11	2	12
SUMMER QUARTER 1977					
BUS	120	Accounting	5	2	6
EDP	102	COBOL I Programming	2	4	4
		Elective**	3	0	3
			10	6	13
FALL QUARTER 1977					
BUS	121	Partnership Accounting	5	2	6
ENG	204	Oral Communications	3	0	3
BUS	235	Business Management I	3	0	3
			11	2	12
WINTER QUARTER 1977-78					
BUS	101	Introduction to Business	5	0	5
EDP	202	Data Processing Appl. I	2	3*	3
BUS	236	Business Management II	3	0	3
			10	3	11
SPRING QUARTER 1978					
BUS	122	Corporation Accounting	5	2	6
EDP	200	Computer Systems I	2	3*	3
ECO	102	Economics	3	0	3
			10	5	12
SUMMER QUARTER 1978					
BUS	225	Cost Accounting	3	2	4
ECO	104	Economics	3	0	3
		Elective**			6
					13

FALL QUARTER 1978					
BUS	125	Statistics	2	2	3
EDP	208	PL/1 Programming I	2	4	4
BUS	116	Business Law	3	0	3
			7	6	10
WINTER QUARTER 1978-79					
PSY	206	Applied Psychology	3	0	3
EDP	209	COBOL II Programming	3	2	4
EDP	211	RPG Programming	3	2	4
			9	4	11
SPRING QUARTER 1979					
BUS	272	Prin. of Supervision	4	0	4
EDP	212	Advanced RPG Programming	3	2	4
EDP	204	Systems and Procedures	3	2	4
			10	4	12

* Indicates manipulative laboratory.
** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.

ELECTRONICS ENGINEERING TECHNOLOGY

(T-045)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FALL QUARTER 1976					
ELC	101A	Fundamentals of Electricity I	3	3	4
MAT	101A	Technical Math I	2	0	2
EGR	101	Introduction to Engineering Technology	1	2	2
			6	5	8
WINTER QUARTER 1976-77					
ELC	101B	Fundamentals of Electricity I	2	3	3
MAT	101B	Technical Math I	3	0	3
ENG	101	Grammar and Composition	3	0	3
			8	3	9
SPRING QUARTER 1977					
ELC	102A	Fundamentals of Electricity II	3	3	4
MAT	102A	Technical Math II	2	0	2
PHY	101	Technical Physics I	3	2	4
			8	5	10
SUMMER QUARTER 1977					
ELC	102B	Fundamentals of Electricity II	2	3	3
MAT	102B	Technical Math II	3	0	3
DFT	109	Electronics Drafting I	2	3	3
			7	6	9

FALL QUARTER 1977

ELC	103	Fundamentals of Electricity III	5	3	6
MAT	103	Technical Math III	5	0	5
			10	3	11

WINTER QUARTER 1977-78

ELC	215	Electrical Machines	5	3	6
DFT	112	Electronic Drafting II	2	3	3
			7	6	9

SPRING QUARTER 1978

ELN	105	Electronic Control Devices	5	3	6
PHY	102	Technical Physics II	3	2	4
			8	5	10

SUMMER QUARTER 1978

MAT	201	Technical Math	5	0	5
ENG	102	Technical Composition	3	0	3
ELN	101	Electrical Instruments & Measurements	0	3	1
			8	3	9

FALL QUARTER 1978

ELN	206	Semiconductor Circuit Analysis II	5	3	6
ELN	214	Pulse and Wave Shaping Circuits I	3	3	4
			8	6	10

WINTER QUARTER 1978-79

ELN	215	Pulse and Wave Shaping Circuits II	3	3	4
ELN	207	Semiconductor Circuit Analysis	5	3	6
			8	6	10

SPRING QUARTER 1979

ELN	220	Electronics Systems	5	3	6
MAT	202	Computer Mathematics	2	0	2
ENG	103	Technical Report Writing	3	0	3
			10	3	11

SUMMER QUARTER 1979

ELN	230	Basic Television	5	3	6
ELN	245	Electronic Design Projects	0	4	2
			5	7	8

FALL QUARTER 1979

ELN	208	Industrial Electronics	5	3	6
PSY	206	Applied Psychology	3	0	3
ENG	204	Oral Communications	3	0	3
			11	3	12

WINTER QUARTER 1979-80

ELN	240	Fundamentals of Computers	4	3	5
ELN	231	Fundamentals of Color Television	5	3	6
			9	6	11

EXECUTIVE SECRETARIAL SCIENCE

(T-030)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FALL QUARTER 1976					
BUS	100	Orientation to Business Education	2	0	2
ENG	101	Grammar & Composition	3	0	3
BUS	102	Typewriting	2	3*	3
MAT	100	Essentials of Math	5	0	5
			12	3	13
WINTER QUARTER 1976-77					
BUS	103	Typewriting	2	3*	3
BUS	106	Shorthand	3	2	4
ENG	102	Technical Composition	3	0	3
			8	5	10
SPRING QUARTER 1977					
BUS	104	Typewriting	2	3*	3
BUS	107	Shorthand	3	2	4
EDP	104	Intro. to Data Processing Systems	3	2	4
			8	7	11
SUMMER QUARTER 1977					
MAT	110	Business Math	5	0	5
ENG	103	Technical Report Writing	3	0	3
BUS	108	Shorthand	3	2	4
			11	2	12
FALL QUARTER 1977					
BUS	110	Office Machines	1	2	2
BUS	120	Accounting	5	2	6
BUS	205	Adv. Typewriting	2	3*	3
			8	7	11
WINTER QUARTER 1977-78					
ENG	204	Oral Communications	3	0	3
BUS	206	Dictation & Transcription	3	2	4
ECO	104	Economics	3	0	3
			9	2	10
SPRING QUARTER 1978					
BUS	121	Partnership Accounting	5	2	6
BUS	115	Business Law	3	0	3
BUS	207	Dictation & Transcription	3	2	4
			11	4	13
SUMMER QUARTER 1978					
BUS	208	Dictation & Transcription	3	2	4
BUS	214E	Secretarial Procedures I (Executive)	3	2	4
BUS	209	Machine Transcription	3	2	4
			9	6	12

FALL QUARTER 1978

ENG	206	Business Comm.	3	0	3
BUS	215E	Secretarial Procedures II (Executive)	3	2	4
BUS	112	Filing	3	0	3
			9	2	10

WINTER QUARTER 1978-79

BUS	272	Principles of Supervision	4	0	4
PSY	206	Applied Psychology	3	0	3
PSY	112	Personality Development for Women	3	0	3
			10	2	10

SPRING QUARTER 1979

BUS	183E	Terminology and Vocabulary	3	0	3
SSC	203	Marriage & Family	3	0	3
		Elective**	3	0	3
			9	0	9

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.

INDUSTRIAL MANAGEMENT TECHNOLOGY

(T-049)

Suggested Evening Sequence of Required Courses

		Course Title	**Hours Per Week**		**Quarter Hours Credit**
			Class	**Lab.**	
FALL QUARTER 1976					
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar & Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
			9	2	10
WINTER QUARTER 1976-77					
EDP	104	Introduction to Data Processing Systems	3	2	4
DFT	101	General Drafting I	2	6*	4
ENG	102	Technical Composition	3	0	3
			8	8	11
SPRING QUARTER 1977					
MAT	102	Technical Math	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	General Drafting II	2	6*	4
			10	8	13
SUMMER QUARTER 1977					
ECO	104	Economics	3	0	3
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
			11	0	11
FALL QUARTER 1977					
PHY	102	Technical Physics II	3	2	4
ISC	201	Ind. Organization & Management	3	0	3
		Technical Elective**			4
					11
WINTER QUARTER 1977-78					
PSY	206	Applied Psychology	3	0	3
		Technical Elective**			4
		Technical Elective**			4
					11
SPRING QUARTER 1978					
PHY	103	Technical Physics III	3	2	4
ENG	204	Oral Communications	3	0	3
		Technical Elective**			4
					11
SUMMER QUARTER 1978					
CHM	111	Gen. Chemistry I	3	2	4
SAF	102	Introduction to Industrial Safety	3	0	3
ISC	203	Time and Motion Study	3	3*	4
			9	5	11
FALL QUARTER 1978					
BUS	115	Business Law	3	0	3
		Social Science Elective**	3	0	3
ISC	202	Quality Control	3	3*	4
		Technical Elective**			3
					13

WINTER QUARTER 1978-79					
BUS	272	Principles of Supervision	4	0	4
		Social Science Elective**	3	0	3
		Technical Elective**			4
					11
SPRING QUARTER 1979					
ISC	220	Management Problems	3	4	5
MEC	213	Production Planning	3	3*	4
			6	7	9

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.

INDUSTRIAL MANAGEMENT TECHNOLOGY

TEXTILE OPTION

(T-049)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FALL QUARTER 1976					
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar & Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
			9	2	10
WINTER QUARTER 1976-77					
EDP	109	Introduction to Data Processing Systems	3	2	4
DFT	101	General Drafting I	2	6*	4
ENG	102	Technical Composition	3	0	3
			8	8	11
SPRING QUARTER 1977					
MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	General Drafting II	2	6*	4
			10	8	13
SUMMER QUARTER 1977					
ECO	104	Economics	3	0	3
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
TEX	101	Fundamentals of Textiles	3	0	3
			14	0	14
FALL QUARTER 1977					
PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization & Management	3	0	3
TEX	202	Yarn Forming	5	2	6
			11	4	13

WINTER QUARTER 1977-78

PSY	206	Applied Psychology	3	0	3
TEX	203	Fabric Forming: Weaving	3	2	4
CHM	111	General Chemistry I	3	2	4
			9	4	11

SPRING QUARTER 1978

PHY	103	Technical Physics III	3	2	4
ENG	204	Oral Communications	3	0	3
TEX	204	Fabric Forming: Knitting & Nonconventional Processes	3	2	4
			9	4	11

SUMMER QUARTER 1978

TEX	201	Fiber Science	5	2	6
SAF	102	Introduction to Industrial Safety	3	0	3
ISC	203	Time and Motion Study	3	3*	4
			11	5	13

FALL QUARTER 1978

BUS	115	Business Law	3	0	3
		Social Science Elective**	3	0	3
ISC	202	Quality Control	3	3*	4
			9	3	10

WINTER QUARTER 1978-79

BUS	272	Principles of Supervision	4	0	4
		Social Science Elective**	3	0	3
TEX	205	Dyeing & Finishing	5	2	6
			12	2	13

SPRING QUARTER 1979

ISC	220	Management Problems	3	4	5
MEC	213	Production Planning	3	3*	4
			6	7	9

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.

INDUSTRIAL SAFETY AND HEALTH TECHNOLOGY

(T-117)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FALL QUARTER 1976					
FST	101	Introduction to Fire Protection	2	3	3
MAT	101	Technical Mathematics	5	0	5
CHM	111	General Chemistry I	3	2	4
			10	5	12
WINTER QUARTER 1976-77					
ENG	101	Grammar and Composition	3	0	3
SAF	102	Introduction to Industrial Safety	3	0	3
MAT	102	Technical Mathematics	5	0	5
			11	0	11
SPRING QUARTER 1977					
FST	103	Industrial Fire Hazards	3	3*	4
CHM	112	General Chemistry II	3	2	4
ENG	102	Technical Composition	3	0	3
			9	5	11
SUMMER QUARTER 1977					
CHM	231	Organic Chemistry	3	3*	4
ENG	103	Technical Report Writing	3	0	3
BIO	108	Human Anatomy & Physiology	3	2	4
			9	5	11
FALL QUARTER 1977					
ELC	205	Applied Electricity	2	6*	4
SAF	208	Supervisory Control for Accidents	3	0	3
PHY	101	Technical Physics I	3	2	4
			8	8	11
WINTER QUARTER 1977-78					
SAF	210	Safety Management	3	0	3
PHY	102	Technical Physics II	3	2	4
SAF	201	Principles of Industrial Safety I	3	2	4
			9	4	11
SPRING QUARTER 1978					
ISC	201	Industrial Organization & Management	3	0	3
SAF	202	Principles of Industrial Safety II	3	2	4
ENG	204	Oral Communications	3	0	3
			9	2	10
SUMMER QUARTER 1978					
FST	209	Hazardous Materials	3	2	4
EMT	250	Emergency Medical Service I	2	2	3
SAF	211	Construction Safety	3	3*	4
			8	7	11
FALL QUARTER 1978					
SAF	205	The Nature and Effects of Occupational Health Hazards (Industrial Hygiene I)	3	2	4
FIP	200	Insurance	3	0	3
FST	210	Inspection Principles and Practices	2	3*	3
			8	5	10

WINTER QUARTER 1978-79

SAF	206	Measurement and Evaluation of Occupational Health Hazards (Industrial Hygiene II)	3	2	4
BUS	272	Principles of Supervision	4	0	4
			7	2	8

SPRING QUARTER 1979

DFT	118	Drafting & Blueprint Interpretation I	1	6*	3
PSY	206	Applied Psychology	3	0	3
SAF	207	Control of Industrial Health Hazards (Industrial Hygiene III)	3	2	4
			7	8	10

SUMMER QUARTER 1979

DFT	119	Drafting & Blueprint Interpretation II	1	6*	3
SAF	212	Special Problems in Industrial Safety	1	6*	3
			2	12	6

* Indicates manipulative laboratory.

MANUFACTURING ENGINEERING TECHNOLOGY

(T-050)

Suggested Evening Sequence of Required Courses

FALL QUARTER 1976

		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
EGR	101	Introduction to Engineering Technology	1	2	2
ENG	101	Grammar & Composition	3	0	3
MAT	101	Technical Mathematics	5	0	5
			9	2	10

WINTER QUARTER 1976-77

DFT	101	General Drafting I	2	6*	4
MEC	101	Machine Processes	0	6*	2
ENG	102	Technical Composition	3	0	3
			5	12	9

SPRING QUARTER 1977

MAT	102	Technical Mathematics	5	0	5
PHY	101	Technical Physics I	3	2	4
DFT	102	General Drafting II	2	6*	4
			10	8	13

SUMMER QUARTER 1977

MEC	102	Machine Processes	0	6*	2
ENG	103	Technical Report Writing	3	0	3
MAT	103	Technical Mathematics	5	0	5
			8	6	10

FALL QUARTER 1977

PHY	102	Technical Physics II	3	2	4
ISC	201	Industrial Organization & Management	3	0	3
MEC	103	Machine Processes	0	9*	3
			6	11	10

WINTER QUARTER 1977-78

PSY	206	Applied Psychology	3	0	3
DFT	211	Mechanisms	3	2	4
PHY	103	Technical Physics III	3	2	4
MEC	105	Statics	3	2	4
			12	6	15

SPRING QUARTER 1978

DFT	212	Jig & Fixture Design	2	6*	4
ENG	204	Oral Communications	3	0	3
EGR	201	Industrial Seminar	0	3	1
MEC	205	Strength of Materials	3	2	4
			8	11	12

SUMMER QUARTER 1978

ISC	203	Motion Study	3	3	4
ELC	201	Electrical Machines	3	2	4
EGR	102	Intro. to Computers	3	0	3
MEC	200	Metrology	2	3	3
			11	8	14

FALL QUARTER 1978

ISC	202	Quality Control	3	3*	4
CHM	111	General Chemistry I	3	2	4
WLD	200	Welding Techniques & Applications	2	3*	3
			8	8	12

WINTER QUARTER 1978-79

EGR	202	Industrial Seminar	0	3	1
BUS	272	Principles of Supervision	4	0	4
MEC	210	Physical Metallurgy	3	3*	4
			7	6	9

SPRING QUARTER 1979

MEC	213	Production Planning	3	3*	4
MEC	211	Physical Metallurgy	3	3*	4
MEC	235	Hydraulics and Pneumatics	3	3*	4
			9	9	12

* Indicates manipulative laboratory.

MARKETING AND RETAILING TECHNOLOGY

(T-020)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FALL QUARTER 1976					
ENG	101	Grammar & Composition	3	0	3
BUS	105	Retailing I	3	0	3
MAT	100	Essentials of Math	5	0	5
			11	0	11

WINTER QUARTER 1976-77

BUS	101	Introduction to Business	5	0	5
BUS	100	Orientation to Business	2	0	2
BUS	110	Office Machines	1	2	2
ENG	102	Technical Composition	3	0	3
			11	2	12

SPRING QUARTER 1977

MAT	110	Business Math	5	0	5
BUS	109	Retailing II	3	0	3
ECO	102	Economics	3	0	3
			11	0	11

SUMMER QUARTER 1977

BUS	115	Business Law	3	0	3
BUS	247	Business Insurance	3	0	3
BUS	123	Business Finance	3	0	3
ECO	104	Economics	3	0	3
			12	0	12

FALL QUARTER 1977

BUS	120	Accounting	5	2	6
BUS	219	Credit Procedures & Problems	3	0	3
ENG	204	Oral Communications	3	0	3
			11	2	12

WINTER QUARTER 1977-78

BUS	121	Partnership Accounting	5	2	6
BUS	239	Marketing	5	0	5
			10	2	11

SPRING QUARTER 1978

BUS	249	Buying & Merchandising	2	2	3
EDP	104	Introduction to Data Processing Systems	3	2	4
ENG	206	Business Communications	3	0	3
BUS	116	Business Law	3	0	3
			11	4	13

SUMMER QUARTER 1978

BUS	243	Advertising	3	2	4
BUS	235	Business Management I	3	0	3
BUS	262	Fashions in Retailing	2	2	3
			8	4	10

FALL QUARTER 1978

BUS	232	Sales Development	3	0	3
BUS	102	Typewriting	2	3*	3
BUS	260	Commercial Display and Design I	3	2	4
		Elective**	3	0	3
			11	5	13

WINTER QUARTER 1978-79

SSC	205	American Institutions	3	0	3
PSY	206	Applied Psychology	3	0	3
		Elective**	6	0	6
			12	0	12

SPRING QUARTER 1979

BUS	272	Principles of Supervision	4	0	4
BUS	261	Commercial Display & Design II	3	0	3
		Elective**	3	0	3
			10	0	10

* Indicates manipulative laboratory.

** Elective courses must be selected with advisor's approval from the Associate Degree Curriculum.

MEDICAL SECRETARIAL SCIENCE

(T-032)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FALL QUARTER 1976					
BUS	100	Orientation to Business Education	2	0	2
ENG	101	Grammar & Composition	3	0	3
BUS	102	Typewriting	2	3*	3
MAT	100	Essentials of Math.	5	0	5
			10	5	12
WINTER QUARTER 1976-77					
BUS	106	Shorthand	3	2	4
BUS	103	Typewriting	2	3*	3
ENG	102	Technical Composition	3	0	3
			8	5	10
SPRING QUARTER 1977					
BUS	107	Shorthand	3	2	4
BUS	104	Typewriting	2	3*	3
EDP	104	Introduction to Data Processing Systems	3	2	4
			8	7	11
SUMMER QUARTER 1977					
MAT	110	Business Math	5	0	5
ENG	103	Technical Report Writing	3	0	3
BUS	108	Shorthand	3	2	4
			11	2	12
FALL QUARTER 1977					
BUS	120	Accounting	5	2	6
BUS	110	Office Machines	1	2	2
BUS	205	Advanced Typewriting	2	3*	3
			8	7	11
WINTER QUARTER 1977-78					
ENG	204	Oral Communications	3	0	3
BUS	206	Dictation & Transcription	3	2	4
BUS	183M	Terminology & Vocabulary	3	2	4
			9	4	11
SPRING QUARTER 1978					
BUS	284M	Terminology & Vocabulary (Medical)	3	2	4
BUS	121	Partnership Accounting	5	2	6
BUS	207	Dictation & Transcription	3	2	4
			11	6	14
SUMMER QUARTER 1978					
BUS	214M	Secretarial Procedures I (Medical)	3	2	4
BUS	209	Machine Transcription	3	2	4
BUS	208	Dictation & Transcription	3	2	4
			9	6	12
FALL QUARTER 1978					
BUS	215M	Secretarial Procedures II (Medical)	3	2	4
BUS	112	Filing	3	0	3
ENG	206	Business Communications	3	0	3
			9	2	10

WINTER QUARTER 1978-79					
PSY	206	Applied Psychology	3	0	3
PSY	112	Personality Development for Women	3	0	3
BUS	272	Principles of Supervision	4	0	4
			10	0	10
SPRING QUARTER 1979					
BUS	183E	Terminology & Vocabulary (Business)	3	0	3
SSC	203	Marriage & Family	3	0	3
		Elective**	3	0	3
			9	0	9

* Indicates manipulative laboratory.

** Elective courses must be selected with the advisor's approval from the Associate Degree Curriculum.

AIR CONDITIONING & REFRIGERATION

(V-024)

Suggested Evening Sequence of Required Courses

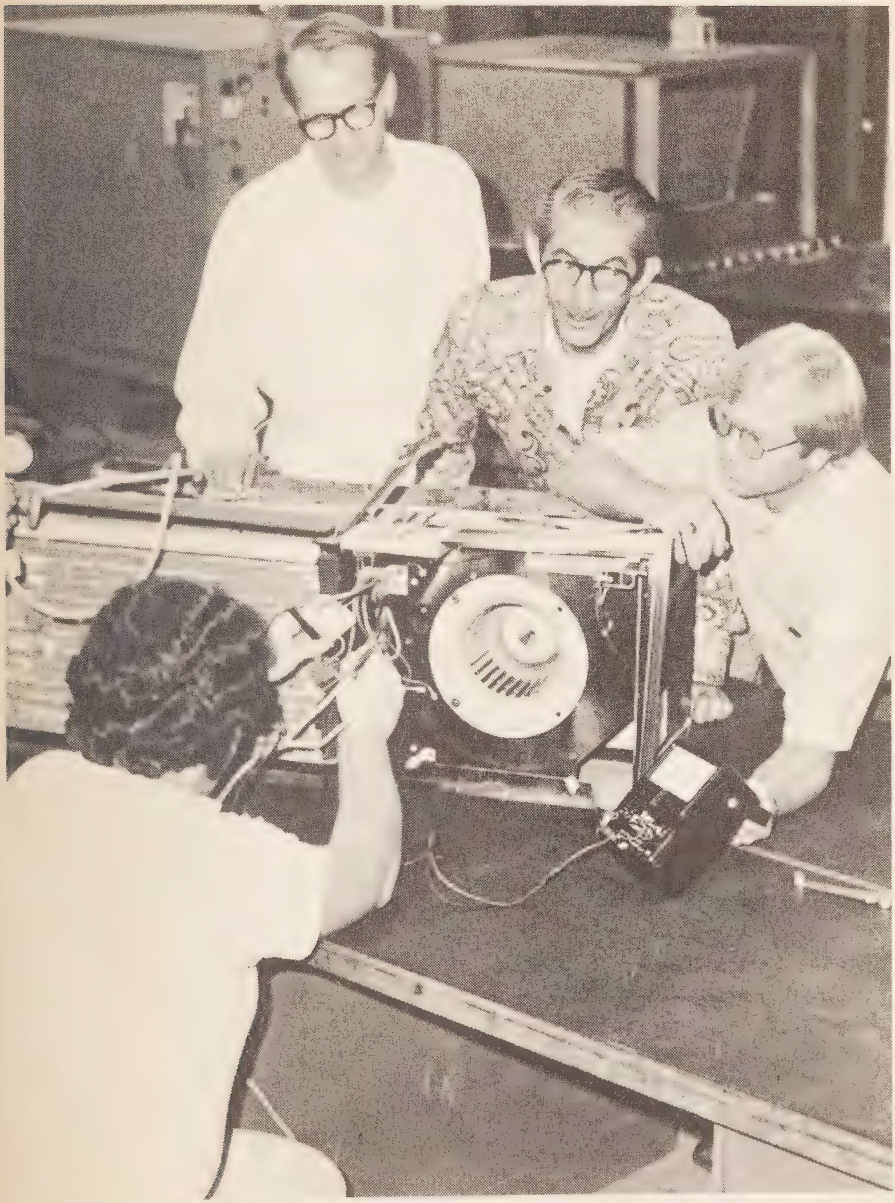
		Course Title	Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FALL QUARTER 1976					
AHR	1121A	Principles of Refrigeration	2	6*	4
PHY	1101	Applied Science	3	2	4
MAT	1101	Fundamentals of Mathematics	5	0	5
			10	8	13
WINTER QUARTER 1976-77					
AHR	1121B	Principles of Refrigeration	1	6*	3
DFT	1104	Blueprint Reading: Mechanical	0	3*	1
PSY	1101	Human Relations	3	0	3
			4	9	7
SPRING QUARTER 1977					
AHR	1122A	Domestic and Commercial Refrigeration	2	6*	4
ENG	1101	Reading Improvement	2	0	2
ORI	1100	Orientation to Vocational Education	2	0	2
			6	6	8
SUMMER QUARTER 1977					
AHR	1122B	Domestic and Commercial Refrigeration	1	3*	2
ELC	1102	Applied Electricity	4	4*	5
			5	7	7
FALL QUARTER 1977					
AHR	1123	Principles of Air Conditioning	3	6*	5
DFT	1116	Blueprint Reading: Air Conditioning	1	3*	2
ENG	1102	Communication Skills	3	0	3
			7	9	10
WINTER QUARTER 1977-78					
AHR	1128	Automatic Controls	3	6*	5
WLD	1101	Basic Welding	0	3*	1
AHR	1113	Calculations and Estimating	5	0	5
			8	9	11

SPRING QUARTER 1978

MEC	1120	Sheet Metal Layout and Fabrication	3	6*	5
AHR	1126	All Year Comfort Systems	3	6*	5
			6	12	10

SUMMER QUARTER 1978

AHR	1124	Air Conditioning & Refrigeration Servicing	3	6*	5
BUS	1103	Small Business Operations	3	0	3
			6	6	8



AUTOMOTIVE MECHANICS

(V-003)

Suggested Evening Sequence of Required Courses

		Course Title	Hours Per Week		Quarter Hours Credit
			Class	Lab.	
FALL QUARTER 1976					
PME	1100	Fundamentals of Automotive Repair	2	3*	3
MAT	1101	Fundamentals of Mathematics	5	0	5
ENG	1101	Reading Improvement	2	0	2
ORI	1100	Orientation to Vocational Education	2	0	2
			11	3	12
WINTER QUARTER 1976-77					
AUT	1123	Automotive Chassis & Suspension	2	6*	4
PHY	1101	Applied Science	3	2	4
DFT	1101	Schematics & Diagrams: Power Mechanics	0	3*	1
			5	11	9
SPRING QUARTER 1977					
PME	1101A	Internal Combustion Engine Fundamentals	2	6*	4
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills	3	0	3
			8	8	11
SUMMER QUARTER 1977					
AUT	1125A	Automotive Servicing I	1	3*	2
PME	1102A	Engine Electrical Systems	2	6*	4
PSY	1101	Human Relations	3	0	3
			6	9	9
FALL QUARTER 1977					
AUT	1124A	Basic Power Train Systems	2	3*	3
PME	1102B	Engine Fuel Systems	2	3*	3
BUS	1103	Small Business Operations	3	0	3
			7	6	9
WINTER QUARTER 1977-78					
AHR	1101	Automotive Air Conditioning	2	3*	3
AUT	1125B	Automotive Servicing II	1	3*	2
PME	1101B	Engine Overhaul	1	3*	2
			4	9	7
SPRING QUARTER 1978					
AUT	1121	Braking Systems	2	3*	3
AUT	1124B	Automatic Transmissions	1	3*	2
AUT	1125C	Automotive Servicing III	0	6*	2
			3	12	7
SUMMER QUARTER 1978					
WLD	1101	Basic Welding	0	3*	1

* Indicates manipulative laboratory.

ELECTRICAL INSTALLATION & MAINTENANCE
(V-018)

Suggested Evening Sequence of Required Courses

Course Title			Hours Per Week Class	Hours Per Week Lab.	Quarter Hours Credit
FALL QUARTER 1976					
ELC	1124	Residential Wiring	5	9*	8
MAT	1115	Electrical Math I	5	0	5
			10	9	13
WINTER QUARTER 1976-77					
MAT	1116	Electrical Math II	5	0	5
ELC	1112	Direct and Alternating Current	5	9*	8
			10	9	13
SPRING QUARTER 1977					
ELC	1113	Alternating Current and Direct Current Machines and Controls	5	9*	8
ORI	1100	Orientation to Vocational Education	2	0	2
			7	9	10
SUMMER QUARTER 1977					
PHY	1101	Applied Science	3	2	4
ENG	1101	Reading Improvement	2	0	2
WLD	1101	Basic Welding	0	3*	1
			5	5	7
FALL QUARTER 1977					
ELN	1118	Industrial Electronics	3	4	5
PHY	1102	Applied Science	3	2	4
			6	6	9
WINTER QUARTER 1977-78					
MEC	1112	Machine Shop Processes	1	3*	2
ENG	1102	Communications Skills I	3	0	3
ELN	1119	Industrial Electronics	3	4	5
			7	7	10
SPRING QUARTER 1978					
BUS	1103	Small Business Operations	3	0	3
ELC	1115	Basic Motor Control Circuits	0	3*	1
PSY	1101	Human Relations	3	0	3
			6	3	7
SUMMER QUARTER 1978					
ELC	1125	Commercial and Industrial Wiring	5	12*	9

* Indicates manipulative laboratory.

MACHINIST TRADE

(V-032)

Suggested Evening Sequence of Required Courses

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FALL QUARTER 1976					
DFT	1104	Blueprint Reading: Mechanical	0	3*	1
PHY	1101	Applied Science	3	2	4
ENG	1101	Reading Improvement	2	0	2
MAT	1101	Fundamentals of Mathematics	5	0	5
			10	5	12
WINTER QUARTER 1976-77					
MEC	1101	Machine Shop Theory and Practice	3	12*	7
ORI	1100	Orientation to Vocational Education	2	0	2
			5	12	9
SPRING QUARTER 1977					
DFT	1105	Blueprint Reading: Mechanical	0	3*	1
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills	3	0	3
			6	5	8
SUMMER QUARTER 1977					
MEC	1102	Machine Shop Theory and Practice	3	12*	7
MAT	1103	Geometry	3	0	3
			6	12	10
FALL QUARTER 1977					
MEC	1103	Machine Shop Theory and Practice	3	12*	7
MEC	1115	Treatment of Ferrous Metals	2	3*	3
			5	15	10
WINTER QUARTER 1977-78					
DFT	1106	Blueprint Reading: Mechanical	0	3*	1
MEC	1116	Treatment of Non Ferrous Metals	2	3*	3
MAT	1104	Trigonometry	3	0	3
MEC	1110	Numerical Control Theory & Practice I	1	2	2
			6	8	9
SPRING QUARTER 1978					
MEC	1104	Machine Shop Theory and Practice	3	12*	7
PSY	1101	Human Relations	3	0	3
			6	12	10
SUMMER QUARTER 1978					
MEC	1111	Numerical Control Theory & Practice II	1	2	2
MAT	1123	Machinist Mathematics	3	0	3
BUS	1103	Small Business Operations	3	0	3
WLD	1101	Basic Welding	0	3*	1
			7	5	9

* Indicates manipulative laboratory.

WELDING TRADE

(V-050)

Suggested Evening Sequence of Required Courses

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FALL QUARTER 1976					
MAT	1101	Fundamentals of Mathematics	5	0	5
PHY	1101	Applied Science	3	2	4
ORI	1100	Orientation to Vocational Education	2	0	2
			10	2	11
WINTER QUARTER 1976-77					
WLD	1120	Oxyacetylene Welding and Cutting	3	12*	7
DFT	1104	Blueprint Reading: Mechanical	0	3*	1
ENG	1101	Reading Improvement	2	0	2
			5	15	10
SPRING QUARTER 1977					
WLD	1121	Arc Welding	3	12*	7
ENG	1102	Communication Skills	3	0	3
			6	12	10
SUMMER QUARTER 1977					
WLD	1124	Pipe Welding	3	12*	7
MAT	1103	Geometry	3	0	3
			6	12	10
FALL QUARTER 1977					
WLD	1123	Gas Shielded Arc Welding	2	4*	3
MEC	1115	Treatment of Ferrous Metals	2	3*	3
DFT	1118	Pattern Development and Sketching	0	3*	1
			4	10	7
WINTER QUARTER 1977-78					
MEC	1116	Treatment of Non Ferrous Metals	2	3*	3
DFT	1117	Blueprint Reading: Welding	3	0	3
PSY	1101	Human Relations	3	0	3
			8	3	9
SPRING QUARTER 1978					
MEC	1112	Machine Shop Processes	1	3*	2
BUS	1103	Small Business Operations	3	0	3
WLD	1128	Welding Power Sources	3	0	3
			7	3	8
SUMMER QUARTER 1978					
WLD	1122	Industrial Cooperative	2	16☆	4

* Indicates manipulative laboratory.

☆ Work experience.

COURSE DESCRIPTIONS

COURSE DESCRIPTIONS

The contents of Vocational, Technical, and Pre-Curriculum Studies courses are outlined in the following course descriptions.

Vocational courses are numbered 1000 through 2000.

Technical Education courses are numbered 100 through 199 and 200 through 299.

Courses in Vocational and Technical programs should be pursued in normal sequence with prerequisite courses taken as indicated.

Pre-Curriculum Studies courses are numbered in the 010 to 099 series. These courses are not creditable towards a degree, diploma, or certificate. Sequence of courses taken in Pre-Curriculum Studies will be arranged with the student's advisor.

One quarter hour of credit is earned for a class meeting one hour each week for the duration of the quarter with the exception of regular laboratories and "manipulative laboratories". "Manipulative laboratory" involves development of skills and job proficiency. Credit of one quarter hour is given for each three of these laboratory hours; one quarter hour is given for each two regular laboratory hours.

Provided for each course is the following information: subject number, title, number of hours of credit and in parentheses, the number of lecture hours and the number of laboratory hours each week.

AIR CONDITIONING

AHR 1101 Automotive Air Conditioning **Credit 3 (2-3)**
General introduction to the principles of refrigeration; study of the heating and air conditioning components and connections necessary in the mechanisms, the methods of operation, and control; proper handling of refrigerants in charging the system.
Prerequisite: PHY 1102, PME 1100.

AHR 1102 Basic Refrigeration **Credit 4 (3-3)**
Introduction to the basic refrigeration cycle, component parts, tools, terminology, and safety in working with refrigeration equipment. Practical work would include working with the basic tools, materials, and equipment used in the refrigeration trade.
Prerequisite: None.

AHR 1113 Calculations & Estimating **Credit 5 (5-0)**
Types of structures are studied in respect to heat loss and/or gain factors. Methods of calculating heat loads for various types of structures. Loads are calculated, systems are sized and estimates made for materials and installation, duct system layouts are made on blueprints.
Prerequisites: DFT 1104, MAT 1101.

AHR 1121 Principles of Refrigeration **Credit 7 (3-12)**
An introduction to the principles of refrigeration, terminology, safety in the use and care of tools and equipment, the identification and the func-

tion of the component parts of a system. Other topics to be included will be the basic laws of refrigeration, characteristics and comparison of the various refrigerants, the use and construction of valves, fittings, and basic controls. Practical work includes tube bending, flaring and soldering. Standard procedures are stressed in the use of special refrigeration service equipment and the handling of refrigerants. Emphasis is made on safety in working with materials, equipment, and tools of the trade.
Corequisite: PHY 1101.

AHR 1122 Domestic and Commercial Refrigeration **Credit 6 (3-9)**
Domestic refrigeration servicing of conventional and hermetic refrigeration systems. Cabinet care, controls, and system maintenance in domestic refrigerators, freezers, and window air conditioning units is stressed. Commercial refrigeration servicing of display cabinets, walk-in cooler and freezer units, and mobile refrigeration systems are studied. A study of controls, refrigerants, servicing methods is made. The National Safety Code for Refrigeration is discussed and its practices recommended.
Prerequisite: AHR 1121, PHY 1101.

AHR 1123 Principles of Air Conditioning **Credit 5 (3-6)**
Work includes the investigation and control of factors affecting air cleaning, movement, temperature, and humidity. Use is made of psychrometric charts in determining needs to produce optimum temperature and humidity control. Residential air conditioning equipment is assembled and tested. Sizing and balancing of duct work is discussed in its practical aspects.
Prerequisite: AHR 1122.

AHR 1124 Air Conditioning and Refrigeration Servicing
Credit 5 (3-6)
Emphasis is placed on the installation, maintenance, and servicing of equipment used in the cleaning, changing, humidification and temperature control of air in a conditioned space. Installation of various ducts and lines needed to connect various components is made when possible. Shop work involves burner operation, controls, testing and adjusting of air conditioning and refrigeration equipment, and location and correction of equipment failure. Field trips will be made to see actual installations.
Prerequisite: AHR 1123.

AHR 1126 All Year Comfort Systems **Credit 5 (3-6)**
Auxiliary equipment used in conjunction with refrigeration systems to provide both heating and cooling for "all year" comfort will be studied and set up in the laboratory. Included will be oil fired systems, gas fired systems, and electric-resistance systems. Installation of heat pumps will be studied along with servicing techniques. Reversing valves, the

defrosting of coils, and electric wiring and controls are included in the study.
Prerequisites: AHR 1123, AHR 1128.

AHR 1128 Automatic Controls **Credit 5 (3-6)**
Types of automatic controls and their function in air conditioning systems. Included in the course will be electric and pneumatic controls for domestic and commercial cooling and heating; zone controls, commercial refrigeration controls, heat pumps, and year round system controls.
Prerequisites: ELC 1102, AHR 1122.

AUTOMOTIVE

AUT 1121 Braking Systems **Credit 3 (2-3)**
A complete study of various braking systems employed on automobiles and light weight trucks. Emphasis is placed on how they operate, proper adjustment, and repair.
Prerequisite: PME 1100.

AUT 1123 Automotive Chassis and Suspension Systems
Credit 4 (2-6)
Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension and steering systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, and front end and alignment.
Prerequisite: PME 1100.

AUT 1124A Automotive Power Train Systems **Credit 3 (2-3)**
Principles and functions of automotive power train systems: Clutches, transmission gears, drive shaft assemblies, rear axles and differentials. Identification of troubles, servicing, and repair.
Prerequisites: PME 1100.

AUT 1124B Automatic Transmissions **Credit 2 (1-3)**
Instruction includes classroom study, demonstrations, and student participation in disassembly, reassembly, and testing of selected transmissions. Emphasis will be on principles of operation, service, and trouble shooting procedures, and repair of various types of automatic transmissions.
Prerequisites: PME 1100, AUT 1124A, PHY 1102.

AUT 1125A Automotive Servicing I **Credit 2 (1-3)**
Emphasis is on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Trouble shooting of automotive systems, providing experiences in testing, adjusting, repairing, and replacing components or units that have been covered in preceding courses.

Prerequisites: PME 1100 plus at least 2 other auto shop courses as Pre- or Co-requisites.

AUT 1125B Automotive Servicing II **Credit 2 (1-3)**
Same description as AUT 1125A plus experiences in additional shop courses.
Prerequisite: AUT 1125A.

AUT 1125C Automotive Servicing III **Credit 2 (0-6)**
Same description as AUT 1125B.
Prerequisite: AUT 1125B plus all shop courses as a pre- or co-requisite.

BIOLOGY

BIO 104 Microbiology **Credit 5 (4-2)**
A study of various aspects of microscopic organisms, including: structure and activities, control, sources and modes of infection, infection and immunity, parthogenic bacteria, pathogens other than bacteria.
Prerequisite: BIO 106.

BIO 105 Human Anatomy & Physiology I **Credit 4 (3-2)**
A study of the structure and functions of the human body.
Prerequisite: None.

BIO 106 Human Anatomy & Physiology II **Credit 4 (3-2)**
A continuation of BIO 105.
Prerequisite: BIO 105.

BIO 107 Anatomy and Physiology Review **Credit 3 (3-0)**
A review course covering the structure and functions of the human body. This course is given in preparation for the State Board of Nursing examination for Registered Nurses.
Prerequisites: BIO 104, 105, 106.

BIO 108 Human Anatomy and Physiology **Credit 4 (3-2)**
An overview of the structure and functions of the human body.
Prerequisite: None.

BIO 208 Pathology for Paramedical Personnel **Credit 3 (3-0)**
The student will be acquainted with the general principles of pathology from the anatomic, histochemical, biochemical and physiologic aspects. There will be study of frequently seen systemic diseases and discussion of the pathology of the various organ systems. Emphasis will be placed on the features of the various conditions which should be known by the technologist in performance of the indicated X-ray examinations.
Prerequisite: BIO 106.

BIO 1102 Anatomy and Physiology **Credit 4 (3-2)**
A study of the general structure and function of the body and its systems.

The course will also include a study of basic microbiology.
Prerequisite: None.

BUSINESS

BUS 010 Introduction to Accounting **Credit 5 (5-0)**
An introduction to basic accounting principles, as applied to modern day business, emphasizing the following areas: the accounting cycle, cash and funds flow, merchandising manufacturing, long term assets, planning and control, and decision making.
Prerequisite: Advisor approval.

BUS 100 Orientation to Business Education **Credit 2 (2-0)**
This course attempts to introduce and orient the student to the broad field of education for business and show how his studies at Rowan Technical Institute can help him to succeed in business. Presentations on topics of current student interest will also be included.
Prerequisite: None.

BUS 101 Introduction to Business **Credit 5 (5-0)**
A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management.
Prerequisite: None.

BUS 102 Typewriting **Credit 3 (2-3)**
Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts.
Prerequisite: None.

BUS 103 Typewriting **Credit 3 (2-3)**
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms.
Prerequisite: BUS 102 or the equivalent. Speed requirement, 35 words per minute for five minutes.

BUS 104 Typewriting **Credit 3 (2-3)**
Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms.
Prerequisite: BUS 103 or equivalent. Speed requirement, 40 words per minute for five minutes.

BUS 105 Retailing I **Credit 3 (3-0)**
A study of the role of retailing in the economy including development of

present retail structure, functions performed, principles governing effective operation and managerial problems resulting from current economic and social trends.
Prerequisite: None.

BUS 106 Shorthand **Credit 4 (3-2)**
A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases.
Prerequisite: None.

BUS 107 Shorthand **Credit 4 (3-2)**
Continued study of theory with greater emphasis on dictation and elementary transcription. Minimum speed requirement of 50 words per minute for five minutes on unfamiliar material.
Prerequisite: BUS 106 or equivalent.

BUS 108 Shorthand **Credit 4 (3-2)**
Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. Minimum speed requirement of 60 words per minute for 5 minutes on unfamiliar material.
Prerequisite: BUS 107 or equivalent.

BUS 109 Retailing II **Credit 3 (3-0)**
A study of what is used to make a retailer successful. And to study the importance of customer service and personal selling and develop a working knowledge of retail controls.
Prerequisite: None.

BUS 110 Office Machines **Credit 2 (1-2)**
A general survey of the business and office machines. Students will receive training in techniques, processes, operation and application of the ten-key adding machines, full keyboard adding machines, and calculator.
Prerequisite: None.

BUS 112 Filing **Credit 3 (3-0)**
Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Triple Check, Automation, Geographic, Subject, Soundex, and Dewey Decimal filing.
Prerequisite: None.

BUS 115 Business Law **Credit 3 (3-0)**
A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments and agencies.
Prerequisite: None.

BUS 116 Business Law **Credit 3 (3-0)**
Includes the study of laws pertaining to bailments, sales, risk-bearing, partnership-corporation, mortgages, and property rights.
Prerequisite: None.

BUS 120 Accounting **Credit 6 (5-2)**
Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises, to include practical application of the principles learned.
Prerequisite: MAT 110 or equivalent.

BUS 121 Partnership Accounting **Credit 6 (5-2)**
An introduction to the basic structure of modern accounting as it is used in the partnership form of business. Emphasis is placed upon familiarizing the student with the special journals and reports used by a partnership. An understanding of accounting terms is further improved in this study of accounting for partnerships.
Prerequisite: BUS 120.

BUS 122 Corporation Accounting **Credit 6 (5-2)**
An introduction to the basic structure of modern accounting as it is used in the corporate form of business. Emphasis is placed on the familiarization of the student with the journals and reports used by a corporation. The transactions and accounts peculiar to a corporation are included in this accounting course.
Prerequisite: BUS 120.

BUS 123 Business Finance **Credit 3 (3-0)**
An analysis of financial statements and their relationship to the short-term financing alternatives available to the firm. Case problems will be used extensively to encourage student involvement in the decision-making process.
Prerequisite: BUS 120.

BUS 124 Business Finance **Credit 3 (3-0)**
A continuing study of the principles of business finance with emphasis on intermediate-term and long-term financing opportunities for the firm and their relative importance to the managerial function. The case problem technique is used extensively.
Prerequisite: BUS 123.

BUS 125 Statistics **Credit 3 (2-2)**
Fundamentals of statistics. Methods of collection, presentation, and interpretation of quantitative data. Emphasis upon measures of central tendency, statistical inference, analysis of time series, index numbers, linear regression and correlation.
Prerequisite: MAT 110 or equivalent.

BUS 183E Terminology and Vocabulary (Business) Credit 3 (3-0)
To develop an understanding of the terminology and vocabulary appropriate to the course of study, as it is used in business, technical, and professional offices.
Prerequisite: None.

BUS 183M Terminology and Vocabulary (Medical) Credit 4 (3-2)
To develop an understanding of the terminology and vocabulary appropriate to the course of study, as it is used in business, technical, and professional offices.
Prerequisite: None.

BUS 183R Terminology (Radiologic) Credit 3 (3-0)
To develop an understanding of the terminology and vocabulary appropriate to the course of study, as it is used in the technical and professional or clinical area. Correct spelling and pronunciation along with utilization of these terms in sentences will be acquired by the student.
Prerequisite: None.

BUS 190 Investments Credit 3 (3-0)
A study of the characteristics, marketing, and investment considerations of public and private securities (bonds, preferred stock and common stock). Securities exchanges, investment analysis and portfolio management are also studied.
Prerequisite: None.

BUS 205 Advanced Typewriting Credit 3 (2-3)
Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. These projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents.
Prerequisite: BUS 104. Speed requirement, 50 words per minute for five minutes.

BUS 206 Dictation and Transcription Credit 4 (3-2)
Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study, which includes a review of the theory and dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rate of 80 words per minute required for five minutes on new material.
Prerequisite: BUS 107.

BUS 207 Dictation and Transcription Credit 4 (3-2)
Covering materials appropriate to the course of study, the student develops the accuracy, speed, and vocabulary that will enable her to meet the stenographic requirements of business and professional offices.

Minimum dictation rate of 100 words per minute required for five minutes on new material.
Prerequisite: BUS 206.

BUS 208 Dictation and Transcription **Credit 4 (3-2)**
Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 120 words per minute required for five minutes on new material.
Prerequisite: BUS 207.

BUS 209 Machine Transcription **Credit 4 (3-2)**
Designed to help students learn the correct techniques of operating the transcription and dictation units plus such fundamentals of good transcription as spelling, punctuation, and letter placement. Emphasis is placed on accurate transcription of correspondence, memorandums, reports, and other documents.
Prerequisite: BUS 104 or 50 words per minute for five minutes with three or fewer errors.

BUS 211 Advanced Office Machines **Credit 3 (2-2)**
A course designed to develop proficiency in the use of office machines for solving problems encountered in business. A practice set containing banking, payroll, inventory and sales transactions is required to give the student familiarity with the actual office situation.
Prerequisite: BUS 110.

BUS 212 Shorthand **Credit 3 (2-2)**
Designed to reinforce theory learned in the three previous quarters. Emphasis on development of speed in dictation and accuracy in transcription. This course is designed for the transition between transcribing with 95 percent accuracy and mailable copy. Time will be spent on grammar, punctuation, capitalization, and any of the other techniques that make for more efficient and accurate transcription.
Prerequisites: BUS 108 or 60 words a minute for 5 minutes on unfamiliar material, transcribed with 95 percent accuracy.

BUS 214E Secretarial Procedures I (Executive) **Credit 4 (3-2)**
Designed to acquaint the student with the responsibilities encountered by a secretary during work days. These include the following: receptionist duties, copying and duplicating processes, processing mail, dictation and transcription duties, composing and typing business correspondence, postal and shipping services, telephone and telegraph services, and filing duties. Students may be assigned to actual office and clerical duties to enhance their learning experiences.
Prerequisite: BUS 205 or equivalent.

BUS 214M Secretarial Procedures I (Medical) **Credit 4 (3-2)**
Designed to acquaint the student with the responsibilities encountered

by a medical secretary during work days. These include the following: receptionist duties, copying and duplicating processes, processing incoming and outgoing mail, dictation and transcription duties, composing and typing business correspondence, postal and shipping services, telephone and telegraph services, and filing duties.
Prerequisite: BUS 205 or equivalent.

BUS 215E Secretarial Procedures II (Executive) Credit 4 (3-2)
Designed as a continuation of BUS 214E with emphasis on developing professional skills to a high level of efficiency. Emphasis is placed on the duties of the secretary as an administrative assistant. These include the following: handling traveling arrangements, handling the details of meetings, data processing, collecting and handling financial and legal responsibilities. Students may be assigned to actual office and clerical duties to enhance their learning experiences.
Prerequisite: BUS 214E.

BUS 215M Secretarial Procedures II (Medical) Credit 4 (3-2)
Designed as a continuation of BUS 214M with emphasis on developing professional skills to a high level of efficiency. These include: insurance in medical practice, medical specialties, medical societies, medical journals, reprints, hospital affiliations, references and resources, research, preparing the manuscript, the doctor and the law, office management, the medical assistant's responsibility, and the dental secretary.
Prerequisite: BUS 214M.

BUS 219 Credit Procedures and Problems Credit 3 (3-0)
Principles and practices in the extension of credit; collection procedures, laws pertaining to credit extension and collection are included.
Prerequisite: None.

BUS 222 Governmental Accounting Credit 5 (5-0)
Governmental accounting based on sound principles and practices. A study of budget items, preparation of budget, justifying budgets, financial statements, cost accounting and record systems, taxation and audits.
Prerequisite: BUS 120.

BUS 223 Intermediate Accounting Credit 6 (5-2)
Intermediate study of the theories and practices of accounting. Particular emphasis is placed on the changing nature of contemporary principles and practices, the increased application of present value concepts in the valuation process, the analysis for recording purposes of transactions that arise in an ever more complex economic-environment and the changes necessary to develop accounting to provide maximum value to its users.
Prerequisite: BUS 121 and BUS 122.

BUS 225 Cost Accounting Credit 4 (3-2)
Nature and purposes of cost accounting, accounting for direct labor,

materials, and factory burden; job cost and standard cost principles and procedures; selling and distribution cost; budgets, and executive use of cost figures.
Prerequisite: BUS 122.

BUS 227 Advanced Accounting **Credit 6 (5-2)**
Nature and purposes of advanced accounting; formation, operation and dissolution of businesses, branch operation, consolidation, acquisitions, foreign branches and subsidiaries, fiduciary accounting procedures and problems, governmental, institutional and non-profit organization accounting procedures and problems.
Prerequisite: Advisor approval.

BUS 229 Taxes **Credit 4 (3-2)**
A study of Federal and State taxes with emphasis upon Federal tax withholding, estimation and planning. The student is introduced to individual taxation and special tax situations as well as small business and partnership return.
Prerequisite: None.

BUS 232 Sales Development **Credit 3 (3-0)**
A study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required.
Prerequisite: None.

BUS 233 Personnel Management **Credit 3 (3-0)**
Principles of organization and management of personnel, procurement, placement, training, performance checking, supervision, remuneration, labor relations, fringe benefits and security.
Prerequisite: None.

BUS 235 Business Management I **Credit 3 (3-0)**
Principles of business management including overview of major functions of management, such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business — qualifications and requirements.
Prerequisite: None.

BUS 236 Business Management II **Credit 3 (3-0)**
A study of the role of management and management decision making in the production, financing, budgeting, and control of a business enterprise. Emphasis will be placed on quantitative analysis. Simulated managerial experience will be provided by student participation in computerized competitive business games.
Prerequisite: BUS 122 and BUS 235 are recommended.

BUS 239 Marketing **Credit 5 (5-0)**
A general survey of the field of marketing, with a detailed study of the

functions, policies, and institutions involved in the marketing process.
Prerequisite: None.

BUS 241 Sales Promotion Management **Credit 3 (2-2)**
The scope and activities of sales promotion with emphasis on the coordination of advertising, display, special events, and publicity. External and internal methods of promoting business; budgeting, planning, and implementing the plan.
Prerequisite: None.

BUS 243 Advertising **Credit 4 (3-2)**
The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media.
Prerequisite: None.

BUS 244 Purchasing **Credit 3 (3-0)**
A study of procedure in obtaining the correct items and quantities of items to provide proper production. To inform the student in the proper procedure in acquiring produce at the lowest cost consistent with quality requirement and pro-practice of writing advertising copy for various media.
Prerequisite: None.

BUS 247 Business Insurance **Credit 3 (3-0)**
A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included.
Prerequisite: None.

BUS 249 Buying and Merchandising **Credit 3 (2-2)**
Analyze the organization for buying; what and how much to buy. Topics included are the psychology of dealing with people, vender relations, planning merchandise assortment, inventory and stock control, pricing.
Prerequisite: BUS 105.

BUS 250 Business Applications Seminar **Credit 3 (3-0)**
This course is designed to allow the student to apply the knowledge he has acquired in previous courses. Case problems and computer simulations will be used to achieve a high degree of student involvement in the solving of business problems. Quantitative analytic techniques will be stressed.
Prerequisite: BUS 120 and BUS 124.

BUS 255 Interpreting Accounting Records **Credit 3 (3-0)**
Designed to aid the student in developing a "use understanding" of accounting records, reports and financial statements. Interpretation analysis, and utilization of accounting statements.
Prerequisite: BUS 121.

BUS 260 Commercial Display and Design I **Credit 4 (3-2)**
An introduction to basic layouts and design of commercial displays. Source and related texts discussing such design as needed by retail stores, banks, restaurants, motels and various offices, specifying equipment and fixtures required.
Prerequisite: None.

BUS 261 Commercial Display and Design II **Credit 3 (3-0)**
The use of fabric construction in clothing, draperies, furniture covers, bath, rugs, and carpets is introduced.
Prerequisite: BUS 260.

BUS 262 Fashion in Retailing **Credit 3 (2-2)**
This course acquaints the student with the relationship between fashion and style. Areas of study include characteristics of styles, fashion trends, coordination; application of color and design analysis.
Prerequisite: BUS 105.

BUS 266 Budget and Record Keeping **Credit 3 (3-0)**
The basic principles, methods and procedures for preparation and operation of budgets. Special attention is given to the involvement of individual departments and the role they play. Emphasis on the necessity for accurate record keeping in order to evaluate the effectiveness of budget planning.
Prerequisite: BUS 121.

BUS 269 Auditing **Credit 4 (3-2)**
Theory and practices of auditing are emphasized, including standards, procedures and rules of professional conduct. Emphasis is placed on detailed audits, internal auditing and internal control.
Prerequisite: BUS 120, 121, 122.

BUS 271 Office Management **Credit 3 (3-0)**
Presents the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing and actuating office problems.
Prerequisite: None.

BUS 272 Principles of Supervision **Credit 4 (4-0)**
Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Emphasis on securing an effective work force and the role of the supervisor. Methods of supervision are stressed.
Prerequisite: None.

BUS 284M Terminology and Vocabulary (Medical) **Credit 4 (3-2)**
Greater emphasis on an understanding of the terminology and vocabulary appropriate to the course of study, as it is used in business, technical, and professional offices.
Prerequisite: BUS 183M.

BUS 284R Terminology and Vocabulary (Radiologic) Credit 3 (3-0)
Greater emphasis on an understanding of the terminology and vocabulary appropriate to the course of study, as it is used in business, technical, and professional offices.
Prerequisite: Advisor approval.

BUS 1102 Typewriting Credit 3 (2-3)
Introduction to the touch system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts.
Prerequisite: None.

BUS 1103 Small Business Operations Credit 3 (3-0)
An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventory, layout of equipment and offices, methods of improving business, and employer-employee relations.
Prerequisite: None.

CARPENTRY

CAR 1101 Carpentry Credit 10 (5-15)
A brief history of carpentry and present trends of the construction industry. The course will involve operation care and safe use of carpenter's handtools and powertools in cutting, shaping and joining construction materials used by the carpenter. Major topics of study will include theoretical and practical applications involving: materials and methods of construction, building layout preparation of site, footings and foundation wall construction, including form construction and erection.
Prerequisite: None.

CAR 1102 Carpentry Credit 10 (5-15)
Cabinetmaking and millwork as performed by the general carpenter for building construction. Use of shop tools and equipment will be emphasized in learning methods of construction of millwork and cabinetry. Practical applications will include measuring, layout and construction of: base and wall cabinets, built in desk, door and window frames, stairs, and interior and exterior cornice and trim. Materials and finishes will also be studied.
Prerequisite: CAR 1101 or advisor approval.

CAR 1103 Cabinetmaking Credit 7 (4-9)
Advanced skills in cabinetmaking and millwork as the general carpenter utilizes in building construction. Complex methods of construction, advanced tools, equipment and materials will be introduced in this continuation of CAR 1102. Field trips will be arranged to enable the student to view examples of the topics of current study.
Prerequisite: CAR 1102, DFT 1111 or advisor approval.

CAR 1124 Residential & Commercial Construction **Credit 5 (3-6)**
This advanced course is supplemented by classroom and outside study of buildings in progress. Suggested topics may include: elementary job management; terrain and soils for foundation; excavating and piling; interior and exterior masonry walls; needed carpentry work; estimating proportions for concrete and mixes for specified strengths. A building may be partially or completely erected to provide actual work experience for the students.
Prerequisites: CAR 1102, DFT 1111 or advisor approval.

CHEMISTRY

CHM 011 Introduction to Chemistry I **Credit 3 (3-0)**
A programmed introduction to chemistry which gives the student basic understanding of the principles of chemistry. Topics of study include chemical symbols and formulas; valence; and chemical equations.
Prerequisite: Advisor approval.

CHM 012 Introduction to Chemistry II **Credit 3 (3-0)**
A continuation in understanding the principles of chemistry. Topics of study include electrical charges; acids, bases, and salts; solubility; acid-base reactions; and ionic structures and complexes.
Prerequisite: Advisor approval.

CHM 111 General Chemistry I **Credit 4 (3-2)**
An introductory chemistry course involving chemical terminology, atomic structure, properties of some elements, and the function of the periodic table. Properties of compounds and mixtures are studied as are types of chemical reactions. Laboratory work consists of various inorganic reactions and preparations.
Prerequisite: MAT 101 or advisor approval.

CHM 112 General Chemistry II **Credit 4 (3-2)**
A study of the properties of elements not covered in CHM 111 and a study in greater depth of the combining properties of the elements including equivalent weights. Laboratory work includes chemical reactions and an investigation of properties of solutions.
Prerequisite: CHM 111.

CHM 231 Organic Chemistry **Credit 4 (3-3)**
Nomenclature, structure, preparation, properties, and reactions of organic compounds. Laboratory work emphasizes techniques.
Prerequisite: CHM 112.

CRIMINAL JUSTICE

CJC 101 Introduction to Criminal Justice **Credit 5 (5-0)**
This course is designed to familiarize the student with a philosophy and history of law enforcement, its legal limitations in our society, the primary duties and responsibilities of the various agencies in the criminal

justice field, the basic processes of justice, an evaluation of law enforcement's current position, and an orientation relative to the profession as a career.
Prerequisite: None.

CJC 102 Criminology **Credit 5 (5-0)**
A general course designed to introduce the student to the causation of crime and delinquency. The historical and contemporary aspects of crime, law enforcement, punishment, and correctional administration will be discussed.
Prerequisite: None.

CJC 110 Juvenile Delinquency **Credit 5 (5-0)**
General survey of juvenile delinquency as an individual and social problem, theories of delinquency, causation, and methods of correction and prevention. The course will present a general overview of the juvenile court.
Prerequisite: None.

CJC 115 Criminal Law **Credit 3 (3-0)**
A course designed to present a basic concept of criminal laws and to provide a legal groundwork for those who seek to enter the criminal justice field.
Prerequisite: None.

CJC 125 Due Process **Credit 5 (5-0)**
This course is designed to provide the student with a review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state, and civil laws as they apply to and affect law enforcement.
Prerequisite: None.

CJC 201 Motor Vehicle Law **Credit 3 (3-0)**
A study of the traffic enforcement codes with primary emphasis placed on North Carolina law as it relates to motor vehicles.
Prerequisite: None.

CJC 202 Traffic Enforcement **Credit 3 (3-0)**
A study which covers the history of the traffic enforcement problems and gives an overview of the problem as it exists today. Attention will be given to the three E's (enforcement, evaluation, effectiveness) and legislation, the organization of the traffic unit, the responsibilities to the traffic function of the various units within the law enforcement agency, enforcement tactics, evaluation of the traffic program effectiveness and the allocation of men and materials. Accident investigation is stressed.
Prerequisite: None.

CJC 203 Corrections Survey **Credit 3 (3-0)**
An examination of the total correctional process from law enforcement through the administration of justice, probation, prisons and correctional institutions, and parole. This course will provide a history and philosophy in the field of correction.
Prerequisite: None.

CJC 204 Paroles, Probation, and Pardons **Credit 3 (3-0)**
Probation as a judicial process and parole as an executive function are examined as community-based correctional programs and the use of pardons is reviewed.
Prerequisite: None.

CJC 205 Evidence **Credit 5 (5-0)**
Instruction covers the kinds and degrees of evidence and the rules governing the admissibility of evidence in court.
Prerequisite: None.

CJC 206 Community Relations **Credit 3 (3-0)**
This course will provide the student with an understanding of community structures as they relate to minority groups, peer groups, socioeconomic groups, leader groups, and group relations. Emphasis will be placed on the organization and function of these groups as they relate to the profession of criminal justice-protective service.
Prerequisite: None.

CJC 207 Confinement Facilities Administration **Credit 3 (3-0)**
This course is designed to familiarize the student with the supervision and administration of confinement facilities involving techniques of inmate supervision, security, medical care of prisoners, food preparation, sanitation, and various legal aspects controlling detention facilities, correctional institutions, and jails.
Prerequisite: None.

CJC 208 Crime Scenes — Collection and Preservation of Evidence **Credit 3 (2-2)**
This course is designed to familiarize the student with the importance of identifying types of evidence at a crime scene, to teach him to properly mark the evidence, and how to establish a legal chain of evidence. The student is instructed in the various ways of preserving and packaging evidence for shipment to a crime lab.
Prerequisite: None.

CJC 209 Correction Law **Credit 3 (3-0)**
This course is designed to familiarize the student with the specific laws as they pertain to correction, care, custody, and control.
Prerequisite: None.

CJC 210 Criminal Investigation **Credit 5 (5-0)**
This course introduces the student to fundamentals of investigation;

crime scene search; recording, collection, and preservation of evidence; sources of information; interview and interrogation, case preparation, and court presentation.
Prerequisite: None.

CJC 211 Criminalistics **Credit 5 (4-3)**
An introduction to the forensic aspects of police science. The subject matter concentrates on the procedures to be undertaken in the crime lab. Emphasis is placed on fulfilling all legal requirements regarding the handling and evaluation of physical evidence. All students participate in a crime scene and the investigation of all evidence pertaining to the crime.
Prerequisite: None.

CJC 212 Drugs **Credit 4 (3-2)**
This course is designed to prepare the student to identify and classify drugs. Emphasis will be placed on the investigation techniques and effects of drugs on the human body as they relate to a profession in criminal justice-protective service.
Prerequisite: None.

CJC 216 Advanced Criminal Law **Credit 3 (3-0)**
A continuation of Criminal Law I which presents a basic concept of criminal law and creates an appreciation of the rules under which one lives in our system of government. Primary emphasis will be placed on North Carolina law.
Prerequisite: CJC 115.

CJC 217 Patrol Procedures **Credit 3 (3-0)**
This course defines the purposes of patrols and describes the types of patrols. It explains the operation of police vehicles on patrol, answering calls — emergency and non-emergency and felony in progress. It provides the student the opportunity to develop powers of perception, and observation concerning persons, places, and things. Safe driving techniques and uses of equipment are presented.
Prerequisite: None.

CJC 220 Police Organization and Administration **Credit 5 (5-0)**
Introduction to principles of organization and administration, discussion of the service functions, e.g., personnel management, police management, training, communications, records, property maintenance, and miscellaneous service.
Prerequisite: None.

CJC 221 Correction Administration **Credit 3 (3-0)**
Emphasis is placed on the principles of administration in the correctional setting including budgeting and financial control, recruitment and development of staff, administrative decision making, public relations, and other correctional administrative functions.
Prerequisite: None.

CJC 223 Correction Counseling **Credit 4 (3-2)**
This course is designed to provide the student with information pertaining to counseling techniques as they apply to the needs of a correction officer. Time is provided for role playing and other practical techniques.
Prerequisite: None.

CJC 224 Rehabilitation **Credit 3 (3-0)**
This course is designed to provide the student with the opportunity to explore the different avenues of rehabilitation. The new and innovative techniques of rehabilitation will be emphasized as they relate to successful methods.
Prerequisite: None.

CJC 230 Counseling **Credit 3 (3-0)**
This course is designed to present the basic elements of counseling. The basic elements will be applied to the different socioeconomic groups in our society.
Prerequisite: None.

CJC 234 Community-Based Correction **Credit 3 (3-0)**
Community resources that can be utilized in the correctional process are examined such as vocational rehabilitation, alcohol detoxification and other units, welfare services, child guidance and mental health clinics, employment services, private volunteer, professional assistance, legal aid, and other pertinent services.

CJC 240 Minimum Standards I (Law Enforcement) **Credit 6 (5-3)**
This basic training course is designed to provide the law enforcement officer with instruction in how to perform those tasks essential to his job. Topics studied include law enforcement code of ethics, purposes of law enforcement, jurisdiction of various law enforcement agencies, violations of the law, use of basic equipment, investigation, search, questioning techniques, and arrest techniques.
Prerequisite: None.

CJC 241 Minimum Standards I (Corrections) **Credit 6 (5-3)**
This basic training course is designed to provide the correctional officer with instruction in how to perform those tasks essential to his job. Topics studied include purposes of corrections, ethical standards, inmate admissions, security, and emergency situations.
Prerequisite: None.

CJC 242 Minimum Standards II (Law Enforcement) **Credit 5 (4-3)**
A continuation of CJC 240. Additional topics of study will include proper use of weapons and offensive and defensive tactics, report preparation, handling of court cases, crowd control and juveniles.
Prerequisite: CJC 240.

CJC 243 Minimum Standards II (Corrections) **Credit 5 (4-3)**
A continuation of CJC 241. Additional topics of study will include supervision and re-integration of defenders into society.
Prerequisite: CJC 241.

CJC 244 Crime Prevention **Credit 3 (3-0)**
This course is designed to make the student aware of the many opportunities for law-breaking open to the potential criminal. Various types of preventive securities such as locks, lighting, alarms, neighborhood watch programs, public presentations on crime prevention to interested groups by the students, etc., will be studied.
Prerequisite: None.

CJC 250 Mental Retardation **Credit 3 (3-0)**
This course is designed to provide the student with the opportunity to acquire an understanding of the mentally retarded person in terms of the individual's behavior as it relates to confinement.
Prerequisite: None.

CJC 357 Weapons and Tactics **Credit 3 (2-2)**
Familiarizes the student with the various firearms and defensive and offensive weapons used in the law enforcement agency. Actual operation and practice will be included in various settings and conditions, such as night, inclement weather, etc.
Prerequisite: None.

DENTAL

DEN 1001 Introduction to Dental Assisting **Credit 2 (2-0)**
An introduction to the history of dental assisting, the role of the dental assistant in practice and its relationship to other members of the dental health team, dental terminology, and the personal and ethical requirements for safe and effective practice.
Prerequisite: None.

DEN 1002 Dental Materials **Credit 6 (3-9)**
A study of the composition and source of materials employed in dentistry and the behavior of these materials under various treatments. Through lecture, demonstration, and laboratory exercises, the student learns to identify and manipulate these materials.
Prerequisite: None.

DEN 1003 Oral & Dental Anatomy **Credit 4 (4-0)**
A study of the anatomy, physiology, histology, embryology, and morphology of the human dentition and all supporting structures.
Prerequisite: None.

DEN 1004 Preclinical Sciences **Credit 6 (6-0)**
Fundamental information from oral pathology, pharmacology, and first

aid as related to the role of the dental assistant. Designed in three units.
Prerequisite: DEN 1003.

DEN 1005 Dental Office Management **Credit 5 (4-2)**
Principles and procedures related to management of the dental office, including clinical and financial records, appointment control, supply inventory, and establishing favorable patient relations.
Prerequisite: DEN 1001.

DEN 1006 Clinical Procedures I **Credit 5 (3-6)**
Principles and procedures related to dental instruments and equipment, and chairside techniques of dental assisting with emphasis on four-handed dentistry.
Prerequisite: DEN 1002.

DEN 1007 Clinical Procedures II **Credit 7 (5-6)**
Role of the dental assistant in various specialties, such as endodontics, periodontics, orthodontics, prosthodontics, oral surgery, and pedodontics.
Prerequisite: DEN 1006.

DEN 1009 Dental Office Practice I **Credit 4 (0-12)**
Introduction to practice in the dental office or clinic. Emphasis is on the dental assistant's role in chairside procedures.
Prerequisite: DEN 1006, DEN 1012; Corequisite: DEN 1007.

DEN 1010 Dental Office Practice II **Credit 10 (0-30)**
Practice in the dental office or clinic; rotation of assignments to encompass experience in office management, the dental laboratory, and the operatory. Emphasis on chairside assisting in a variety of clinical procedures.
Prerequisite: DEN 1009.

DEN 1011 Dental Assistant Seminar **Credit 2 (2-0)**
Study of personal responsibilities as a member of the dental health team, including employee-employer relations, opportunities for continued personal and professional development.
Prerequisite: Fourth-quarter standing.

DEN 1012 Dental Roentgenology **Credit 4 (2-6)**
Study of principles related to exposing, processing and mounting dental radiographs. Radiation hazards and safety measures employed for protection of patient and self are stressed.
Prerequisite: DEN 1003.

DEN 1013 Oral Health Education **Credit 2 (2-1)**
Study of nutrition, etiology, prevention and control of dental caries and periodontal diseases with emphasis on the dental assistant's role in oral health education.
Prerequisite: DEN 1007.

DRAFTING

DFT 010 Introduction to Basic Drafting **Credit 5 (5-0)**
This course will provide the student with a basic background in drafting technology. Some of the topics discussed are drafting instruments, orthographic projection, sectional views, and auxiliary views.
Prerequisite: Advisor approval.

DFT 011 Basic Blueprint Reading I **Credit 2 (2-0)**
An individualized course in basic blueprint reading emphasizing the following areas: elements of machine drawings; hydraulic and pneumatic drawings; machine drawings; building drawings; electrical drawings; pipe-system drawings; sheet metal drawings; shop math; and sketching.
Prerequisite: Advisor approval.

DFT 012 Basic Blueprint Reading II **Credit 2 (2-0)**
An individualized course in which the student will gain an understanding of electrical, mechanical, and fluid systems through the use of schematic diagrams. Topics of study include introduction to schematics; guidelines for reading schematics; electrical symbols; electrical diagrams; piping symbols; piping schematics; fluid power symbols; fluid power schematics; and welding symbols.
Prerequisite: Advisor approval.

DFT 101 Technical Drafting I **Credit 4 (2-6)**
The field of mechanical drafting is introduced as the student begins study of drawing principles and practices for print reading and describing objects in the graphic language. Basic skills and techniques of drafting including use of drafting equipment, lettering, geometric construction, and orthographic drawing and sketching of the principal views will be covered. Sectional views and auxiliary views will be included.
Prerequisite: None.

DFT 102 Technical Drafting II **Credit 4 (2-6)**
The study of orthographic projections will be continued, applying them to working drawings. Standards and practices of dimensioning and tolerancing as approved by the American National Standards Institute will be studied. Threads, fasteners, charts and graphs, piping and welding drawings will be included, as well as a special emphasis on the student's major area of study.
Prerequisite: DFT 101.

DFT 103 Technical Drafting **Credit 4 (2-6)**
Continued study of sectional views and auxiliary views both primary and secondary, intersections and developments and their practical solutions. The various techniques employed to produce and render pictorial drawings including isometric, oblique, and perspectives.
Prerequisite: DFT 102.

DFT 109 Electronics Drafting I **Credit 3 (2-3)**

The course will provide experience for the electronics student in basic drafting. Lettering, orthographic projection, sectioning, dimensioning, axonometric drawings, and working drawings will be included. Problems and drawings will be geared for the Electronics student.
Prerequisite: None.

DFT 112 Electronics Drafting II **Credit 3 (2-3)**

The course will provide experience in the various types of drawing used by the Electronics industry. Chassis layouts, block diagrams, circuit diagrams, printed circuit layout, and related drawings will be included. The course is intended primarily for second quarter Electronics students.
Prerequisite: DFT 109.

DFT 118 Drafting and Blueprint Interpretation I **Credit 3 (1-6)**

Basic drafting techniques are covered to provide a working knowledge of drafting as a tool for communicating ideas. Topics included are: use of instruments, lettering, geometrical construction, orthographic projection, sectional views, and auxiliary views. Reading and interpreting blueprints is emphasized.
Prerequisite: None.

DFT 119 Drafting and Blueprint Interpretation II **Credit 3 (1-6)**

A continuation of DFT 118. Dimensioning of various drawings including floor plans, sections, elevations, and details. Reading of blueprints will be emphasized with a detailed study of residential and commercial buildings as drawn by architectural firms. Structural, electrical, and topographical plans and building specifications will be included.
Prerequisite: DFT 118 or DFT 101.

DFT 200 Drafting Analysis **Credit 4 (2-6)**

This course recognizes the students' varied interests in several of the major specialty fields of drafting occupations. The student will make an analysis of these areas including the architectural and structural, drafting fields. Drawings will be made relating to each specialty and blueprints will be analyzed. Field trips will be included when applicable.
Prerequisite: DFT 103 or advisor approval.

DFT 201 Technical Drafting **Credit 4 (2-6)**

Applications and constructions of charts, graphs, and nomographs in engineering and technical data. Screw threads, springs, keys, rivets, piping, and welding symbols, methods of representing and specifying will be covered. Basic mechanisms of motion transfer, gears and cams, will be studied and drawn with emphasis on methods of specifying, calculating, dimensioning, and delineating.
Prerequisite: DFT 103.

DFT 204 Descriptive Geometry **Credit 4 (2-6)**
Graphic analysis of space problems involving points, lines, planes, connectors, and a combination of these. Practical design problems will be stressed with analytical verification where applicable. Visualization shall be stressed on every problem.
Prerequisites: DFT 103, MAT 102.

DFT 205 Design Drafting I **Credit 4 (2-6)**
Basic design is introduced in the study of motion transfer mechanisms as they relate to power trains. Principles of design sketching, design drawing, layout drafting, detailing from layouts, production drawings and simplified drafting practices constitute areas of study. Types and methods of specifying materials and workmanship are an integral part of the course.
Prerequisites: DFT 204, PHY 102, DFT 201.

DFT 206 Design Drafting II **Credit 6 (4-6)**
Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. A written technical report, preliminary design sketches, layout drawings, detail drawings, assembly and sub-assembly drawings, pictorial drawings, exploded pictorial assembly, patent drawings and specifications are required as a part of the problem.
Prerequisites: DFT 205, DFT 211, MEC 205.

DFT 211 Mechanisms **Credit 4 (3-2)**
Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and accelerations of points within a link mechanism, layout methods for designing cams, belts, pulleys, gears, and gear trains.
Prerequisites: DFT 102, MAT 103, PHY 102.

DFT 212 Jig and Fixture Design **Credit 4 (2-6)**
Commercial standards, principles, practices and tools of jig and fixture design, individual project and design work to acquaint students with the types of jigs and fixtures and their design.
Prerequisite: DFT 102.

DFT 1101 Schematics and Diagrams: Power Mechanics **Credit 1 (0-3)**
Interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes.
Prerequisite: None.

DFT 1104 Blueprint Reading: Mechanical **Credit 1 (0-3)**
Interpretation and reading of blueprints. Information on the basic prin-

ciples of the blueprint; lines, views, dimensioning procedures and notes, and freehand sketching.
Prerequisite: None.

DFT 1105 Blueprint Reading: Mechanical **Credit 1 (0-3)**
Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations, introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes.
Prerequisite: DFT 1104.

DFT 1106 Blueprint Reading: Mechanical **Credit 1 (0-3)**
Advanced blueprint reading and sketching as related to detail and assembly drawings used in machine shops. The interpretation of drawings of complex parts and mechanisms for features of fabrication, construction and assembly.
Prerequisite: DFT 1105.

DFT 1110 Blueprint Reading: Building Trades **Credit 3 (2-3)**
Principles of interpreting blueprints and specifications common to the building trades. Development of proficiency in making three-view and pictorial sketches.
Prerequisite: None.

DFT 1111 Blueprint Reading & Sketching **Credit 3 (2-3)**
Principles of interpreting blueprints and specifications common to the building trades. Practice in reading details for grades, foundations, floor plans, elevations, walls, doors and windows, and roofs of buildings. Development of proficiency in making three-view and pictorial sketches.
Prerequisite: None.

DFT 1116 Blueprint Reading: Air Conditioning **Credit 2 (1-3)**
A specialized course in small structure blueprint reading for the heating, air conditioning student. Emphasis will be placed on reading of blueprints that are common to the building trades; symbols, dimensioning practices, detail structural drawings, and floor plans.
Prerequisite: DFT 1104.

DFT 1117 Blueprint Reading: Welding **Credit 3 (3-0)**
A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications.
Prerequisite: DFT 1104.

DFT 1118 Pattern Development and Sketching **Credit 1 (0-3)**
Methods used in layout of sheet steel; sketching of projects, jigs and holding devices involved in welding. Special emphasis is placed on developing pipe and angle layouts by the use of patterns and templates.
Prerequisite: DFT 1104.

DFT 1121 Drafting I **Credit 7 (3-12)**
An introduction to drafting and the study of drafting practices. Instruction is given in the selection, use and care of instruments, singlestroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Orthographic projection, reading and instrument drawing of principal views, single auxiliary views (primary) and double (oblique) auxiliary views will be emphasized. Dimensioning and note practices will be studied with reference to the National Standards Institute practices. Methods of reproducing drawings will be included at the appropriate time.
Prerequisite: None.

DFT 1122 Drafting II **Credit 7 (3-12)**
The trainee will study simple and successive revolutions and their applications to practical problems. Sections and conventions will be studied and both detail and assembly sections will be drawn. Intersections and developments will be studied by relating the drawing to the sheet metal trades. Models of the assigned drawings will be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn.
Methods of drawing and projecting axonometric, oblique, and perspective drawings will be studied with emphasis on the practical applications of pictorial drawings. Various methods of shading will be introduced and dimensioning and sectioning of oblique and axonometric pictorials will be done.
Prerequisite: DFT 1121.

DFT 1125 Descriptive Geometry **Credit 3 (2-3)**
Graphical analysis of space problems. The problems deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Included are problems dealing with solid geometry theorems. Where applicable, each graphical solution shall be accompanied by the analytical solution.
Prerequisite: DFT 1122.

DFT 1131 Mechanical Drafting III **Credit 7 (3-12)**
An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners; keys, rivets, springs, and welding. Symbols will be studied and drawings will be made involving these items. Principles of design will be introduced with the study of basic mechanisms of motion transfer; gears, cams, power trains, pulleys, belting and methods of specifying and calculating dimensions will be studied. Drawings will be made involving these mechanisms.
Prerequisite: DFT 1122.

DFT 1132 Mechanical Drafting IV **Credit 7 (3-12)**
Principles of design sketching, design drawings, layout drafting, detailing from layout drawings, production drawings, and simplified drafting practices, constitute areas of study. Forging and casting drawings will be

made from layouts. Specifications, parts list and bill of materials are emphasized in this course. The student will develop a complete set of working drawings of a tool, jig, fixture or simple machine and learn principles of design, handbook and manual usage.
Prerequisite: DFT 1131.

DFT 1141 Building Trades Drafting I **Credit 4 (2-4)**
Introduction to the building trades drafting field with special emphasis on the electrical aspect. Instruction in the use of drawing instruments, lettering, drawing of the principal views, plan views, elevations, construction details, and working drawings for residential and industrial buildings. Electrical symbols and conventions and material symbols will be included in the study of working drawings for the building trades.
Prerequisite: None.

DFT 1145 Specifications & Contracts **Credit 4 (3-2)**
The purpose and writing of specifications will be studied along with their legal and practical application to working drawings. Contract documents will be analyzed and studied for the purpose of client-architect-contractor responsibilities, duties and mutual protection.
Prerequisite: DFT 1111 or advisor approval.

ECONOMICS

ECO 102 Economics **Credit 3 (3-0)**
The fundamental principles of economics, with emphasis on microeconomics, including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, distribution, and consumption both in relation to the individual enterprise and to society at large.
Prerequisite: None.

ECO 104 Economics **Credit 3 (3-0)**
Emphasis is on macroeconomics, including a study of the banking system, composition and pricing of national output, distribution of income, international trade and finance, and current economic problems.
Prerequisite: None.

ECO 201 Labor Economics and Labor Relations **Credit 4 (3-2)**
Emphasis is placed on the history of the labor movement in the United States, the development of methods and strategies by labor organizations and by management; the shift in the means of public control; and the factors of income and economic security.
Prerequisite: ECO 104.

ECO 202 Survey of Economics **Credit 3 (3-0)**
The fundamental concepts of economics including the study of supply and demand, the principles bearing upon production, exchange, distribution

and consumption, composition and pricing of national output, international trade and finance, and current economic problems.
Prerequisite: None.

ECO 207/ECO 1001 Consumer Economics **Credit 2 (2-0)**
A practical course designed to help the student understand and learn to apply sound economic principles in his day to day affairs. Work, production, consumption, types of wages, credit, distribution, types of insurance, correct usage of purchasing power, the business cycle, and our free enterprise system will be among the topics studied. Student activities will include research into local current situations affecting his personal life.
Prerequisite: None.

ELECTRONIC DATA PROCESSING

EDP 101 FORTRAN Programming **Credit 4 (3-2)**
A fundamental course in FORTRAN programming. The FORTRAN language structure, statements, and programming methods and techniques are studied. The student will develop program logic and write FORTRAN programs for solving sample problems.
Prerequisite: Advisor Approval.

EDP 102 COBOL I Programming **Credit 4 (2-4)**
This course is designed to provide basic training in COBOL programming. The COBOL language structure, statements, and programming methods and techniques are studied. The student will develop program logic and write COBOL programs for solving sample problems.
Prerequisite: EDP 104.

EDP 104 Introduction to Data Processing Systems **Credit 4 (3-2)**
Fundamental concepts and operational principles of data processing systems, as an aid in developing a basic knowledge of computers. Prerequisite to the detailed study of particular computer problems. This course is a prerequisite for all programming courses.
Prerequisite: None.

EDP 200 Computer Systems I **Credit 3 (2-3)**
A study of computer systems involving such concepts of structure and/or programming as channels, interrupts, multiprogramming, job scheduling, file devices, and file organization.
Prerequisites: EDP 104, EDP 101, or EDP 102.

EDP 201 Computer Systems II **Credit 3 (2-3)**
A study of computer systems involving such concepts of structure and/or programming for operating systems, job control language, resident packs, teleprocessing, and system utilities.
Prerequisite: EDP 200.

EDP 202 Data Processing Applications I **Credit 3 (2-3)**
This course is designed to provide the student with sufficient knowledge in computer methodology to permit the use of computers in business. Emphasis will center around the computer environment with an in-depth study of the integration of the computer within business and industry.
Prerequisites: EDP 104, EDP 101, EDP 102, BUS 120.

EDP 203 Data Processing Applications II **Credit 4 (2-3)**
This course emphasizes the preparation and utilization of operations data used in a typical business, case problems involving systems established for collecting the data, and generating information for organizational units are studied. Audit trials enabling the tracing of transactions back to the original source or forward to the first report are analyzed. Simulated data is used to demonstrate programming techniques (using COBOL) required in processing management information.
Statistical analysis programming using a scientific language is studied as an aid to business decision making.
Prerequisite: EDP 202.

EDP 204 Systems and Procedures **Credit 4 (3-2)**
An introductory course in the principles of management systems applied to information data flows. Particular attention is given to forms flowcharting, forms analysis, and design and systems analysis.
Prerequisite: EDP 104.

EDP 205 Applied Business Systems **Credit 4 (2-3)**
A continuation of management systems applied to information data flow. Practical work in systems flow charting and analysis is implemented. The conduction of feasibility studies, the preparation and maintenance of standard practice, policies and organization manuals, and computer application are stressed.
Prerequisites: EDP 204, BUS 122.

EDP 206 Computer Language Survey **Credit 3 (3-0)**
A survey and comparison of various computer languages. Students will write and execute basic programs in several computer languages.
Prerequisite: EDP 102.

EDP 207 Statistical Programming **Credit 3 (3-0)**
A study of FORTRAN programming as applied to solution of statistical problems. The student will analyze statistical problems and develop the programs and/or use library programs for computer solution.
Prerequisites: EDP 101, BUS 125, or advisor approval.

EDP 208 PL/1 Programming I **Credit 4 (2-4)**
A fundamental course in PL/1 programming. The PL/1 language structure, statements, and programming methods and techniques are studied. The student will develop program logic and write PL/1 programs for solving sample problems.
Prerequisite: EDP 104.

EDP 209 COBOL II Programming **Credit 4 (3-2)**

This course is designed to provide advanced training in COBOL programming. The COBOL language structure, statements, and programming methods and techniques are studied. This course will also include a study of fixed and variable length records for Random Access and Sequential Access devices. The student will develop program logic and write COBOL programs for solving sample problems.
Prerequisites: EDP 104, EDP 102.

EDP 210 PL/1 Programming II **Credit 4 (3-2)**

A continuation of PL/1 programming. The expanded uses of PL/1 language structure, statements, and programming methods and techniques are studied. The student will develop program logic and write more advanced PL/1 programs for solving sample problems.
Prerequisites: EDP 104, EDP 208 or advisor approval.

EDP 211 RPG Programming **Credit 4 (3-2)**

A study of the fundamental concepts of Report Program Generator (RPG) language as a tool in the solution of business problems. Instruction brings out a utilization of previously gained knowledge of programming languages and computer concepts in analyzing business problems and developing appropriate computer programs to insure their solutions. Specifically included is a study of the RPG, specifications, logic, and basic applications. Laboratory exercises require the writing of RPG programs to solve business problems.
Prerequisite: EDP 104.

EDP 212 Advanced RPG Programming **Credit 4 (3-2)**

A study of the advanced usage of RPG as a tool for solving business problems. Tape files, direct access storage devices and the use of subroutines and sub-programs will be included in the instruction. Laboratory exercises require the student to write programs that will use magnetic tape, magnetic disk as a means of storing data for future use.
Prerequisites: EDP 104, EDP 211.

EDUCATION

EDU 102 Preschool Education **Credit 4 (3-2)**

Study of principles and practices of early childhood education. The types of experiences, and facilities which will promote optimal development of each child. Guidelines for identifying, planning, organizing, and implementing appropriate programs and facilities are derived through group discussion and individual projects. Field experience provides opportunities to observe children and programs in different pre-school facilities. Laboratory sessions will provide opportunities for group observation, required research, and the curriculum project.
Prerequisite: None.

EDU 104 Seminar-Practicum **Credit 3 (1-6)**

The Seminar-Practicum experience involves students with the learning

processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum 104 is required for continuation in the Early Childhood Education and Child Care Aide programs.
Prerequisite: None.

EDU 107 Instructional Media and Resources **Credit 4 (3-2)**
Survey of media and application of audiovisual equipment. Study of the role of instructional media and resources in teaching and learning. Sources of free and inexpensive material and special materials for individualized instruction.
Prerequisite: None.

EDU 108 Seminar-Practicum **Credit 3 (1-6)**
The Seminar-Practicum experience involves students with the learning processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum 104 and 108 is required for continuation in the early childhood curriculum.
Prerequisite: PSY 104, EDU 104.

EDU 112 Seminar-Practicum **Credit 3 (1-6)**
The Seminar-Practicum experience involves students with the learning processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum 104, 108, 112 are required for continuation in the early childhood education program.
Prerequisites: EDU 108, PSY 105.

EDU 120 Orientation to Early Childhood Education **Credit 3 (3-0)**
Introductory survey course to provide an overview of the various responsibilities in which an early childhood education specialist is exposed.
Prerequisite: None.

EDU 203 Creative Activities II — Art **Credit 4 (3-2)**
Study of art media in relation to the creative process in young children, of the educational component that each medium reinforces, and of the ways a variety of low-cost art activities can be incorporated into a program for young children. Laboratory sessions will provide first hand experience in art media and exploration and in the care and storage of art materials.
Prerequisite: None.

EDU 205 Seminar-Practicum **Credit 4 (1-9)**
The Seminar-Practicum experience involves students with the learning

processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum 104, 108, 112, and 205 is required for continuation in the early childhood education program.
Prerequisites: EDU 112; PSY 106.

EDU 209 Creative Activities III (Math) Credit 4 (3-2)
Methods and materials related to the programs of math in pre-school through grade three.
Prerequisite: None.

EDU 210 Seminar-Practicum Credit 4 (1-9)
The Seminar-Practicum experience involves students with the learning processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum 104, 108, 112, 205 and 210 is required for continuation in the early childhood education curriculum.
Prerequisite: EDU 205; PSY 106.

EDU 211 Parent Education Credit 2 (2-0)
Study of ways to involve parents in preschool centers and schools, the purposes and value of home visitation, programs for parents and techniques of working with the parents for more total development of the child.
Prerequisite: EDU 102.

EDU 213 Creative Activities IV
(Language Art & Social Studies) Credit 4 (3-2)
Study of the methods and materials applied to communication skills and social studies in preschool through grade three.
Prerequisite: None.

EDU 214 Seminar-Practicum Credit 4 (1-9)
The Seminar-Practicum experience involves students with the learning processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum 104, 108, 112, 205, 210 and 214 are required for continuation in the early childhood curriculum.
Prerequisites: EDU 210; PSY 106.

EDU 215 Seminar-Practicum Credit 6 (1-15)
The Seminar-Practicum experience involves students with the learning

processes in a variety of educational settings. These experiences enable the student to gain exposure to many facets in education as well as to do specialized study in given areas. Through "learning by doing" the student may correlate his knowledge and skills to an actual teaching situation. Satisfactory performance in Seminar-Practicum is required for continuation in the Early Childhood curriculum.
Prerequisite: Advisor approval.

EDU 231 Administration and Supervision in a Preschool Facility **Credit 2 (2-0)**
Designed to assist students in establishing policies and procedures for the operation of a center for the group care of young children. Attention is given to principles of supervision and techniques for promoting acceptance of a philosophy by the total staff.
Prerequisite: Advisor approval.

EDU 232 Residential Group Care **Credit 3 (3-0)**
This course is designed to provide scientific methods useful in mastering the art of everyday living for child care workers in an "institutional environment".
Prerequisite: None.

ENGINEERING TECHNOLOGY

EGR 101 Introduction to Engineering Technology **Credit 2 (1-2)**
An overview of the field of engineering technology with discussion of the technician's work and his role in the engineering organization. The social aspects of technology will be stressed along with the requirements in training, character, and professional ethics. The students will be oriented to the social and academic life at Rowan Tech with particular emphasis on good study habits. Occupational safety and first aid will be a vital part of this course.
Prerequisite: None.

EGR 102 Introduction to Computers **Credit 3 (3-0)**
Fundamental concepts of computer usage. Including principles of data processing, computer graphics, microfilm, scientific programming.
Prerequisite: Advisor approval.

EGR 201 Industrial Seminar **Credit 1 (0-3)**
Through industrial visits, guest lecturers, and round-table discussions, the student will learn of his role in industry and the part industry plays in our society. He will get a first hand view of the social, economic and labor problems faced in industry along with issues of current importance that have social, scientific, and philosophical implications.
Prerequisite: Second Year Student or advisor approval.

EGR 202 Industrial Seminar **Credit 1 (0-3)**
Continuation of EGR 201.
Prerequisite: EGR 201.

ELECTRICAL

ELC 011 Electrical Maintenance I **Credit 5 (5-0)**
An individualized course in electrical maintenance. Topics of study include introduction to electricity and electronics; batteries and D-C circuits; transformers and A-C circuits; electrical measuring instruments; and electrical protective devices.
Prerequisite: Advisor approval.

ELC 012 Electrical Maintenance II **Credit 5 (5-0)**
A continuation of ELC 011. Areas of study include D-C equipment and controls; single-pause motors; three pause systems; A-C control equipment; and electrical troubleshooting.
Prerequisite: ELC 011, Advisor approval.

ELC 013 Introduction to Direct and Alternating Circuits
Credit 4 (4-0)
This course provides a basic understanding of AC and DC circuits. Topics of study include the transformer, power supplies, AC computations, series resistive — reactive circuits, series resonance, parallel resistive — reactive circuits, current, voltage, resistance, measuring voltage and current in series circuits, parallel circuits, series — parallel circuits, magnetism, electromagnetics, and capacitance.
Prerequisite: Advisor approval.

ELC 101 Fundamentals of Electricity **Credit 7 (5-6)**
Elementary principles of electricity including: Basic electric units, Ohm's Law, Kirchhoff's Law, network theorems, magnetics, basic electrical measuring instruments, inductance, capacitance, sine wave analysis, and non-resonant resistive, inductance and capacitive networks.
Prerequisite: None.
Corequisite: MAT 101.

ELC 102 Fundamentals of Electricity **Credit 7 (5-6)**
Series and parallel resistive-circuit analysis and non-resonant transformer analysis. The study of the time and frequency as it relates to AC wave widths. Basic diode power supply analysis, introduction to nonlinear resistive control devices, and introduction to electro-mechanical devices.
Prerequisite: ELC 101 and MAT 101.

ELC 103 Fundamentals of Electricity **Credit 6 (5-3)**
A continuation of ELC 102 and the study of resonants, circuits and transformers. Analysis of frequency and band width as related to tuned transformers and resonant circuits. The use of complex numbers in AC circuit analysis. Network theorems are presented in depth.
Prerequisite: ELC 102.

ELC 201 Electrical Machinery **Credit 4 (3-2)**
A course in the basic understanding and application of electricity to

modern industrial machinery. Included is a study of direct current motors, motor controls and protecting devices, transformers, and the industrial applications of this equipment.
Prerequisite: PHY 103.

ELC 205 Applied Electricity **Credit 4 (2-6)**
This course covers a wide area of electrical subjects, with emphasis on electrical safety and fire protection. Subject areas to be studied include: D.C. circuits, magnetism, meters and their uses, single-phase A.C. circuits, three-phase circuits, overcurrent devices, wiring methods and materials, grounding, service entrances and branch circuits, motors and motor circuits, and hazardous locations. The National Electrical Code will be emphasized throughout the course.
Prerequisite: None.

ELC 215 Electrical Machines **Credit 6 (5-3)**
Principles of direct-current generators and motors, types and characteristics; alternating-current generators, transformers, three-phase motors, synchronous motors and single-phase motors.
Prerequisites: MAT 102, PHY 102, ELC 103.

ELC 225 Electrical Controls and Circuits **Credit 6 (5-3)**
An introduction to control systems for acceleration, speed, and braking. Alternating current contactors and relays, drum controllers, wye-delta starters, overload and overvoltage protection and sensing devices. Typical control systems; motor control, field control; controls for air conditioning, refrigeration and heating.
Prerequisites: MAT 103, PHY 102, ELC 215.

ELC 230 Electrical Power Systems **Credit 6 (5-3)**
A familiarization with power plants, switch gear and circuit breakers, plant distribution, transmission lines and lightning protection.
Prerequisite: ELC 225.

ELC 235 Planning Electrical Installations I **Credit 5 (3-6)**
A familiarization with the National Electrical Code; the power requirements and typical design of industrial and commercial installations. Design and calculation of illumination and electric heating systems.
Prerequisites: ELC 101, ELC 102.

ELC 236 Planning Electrical Installations II **Credit 5 (3-6)**
A continuation of study of the National Electrical Code with emphasis on more complex commercial and industrial wiring installation. A familiarization with NEMA ratings of motor starters, panelboards, switchboards, contactors, and lighting equipment.
Prerequisite: ELC 235.

ELC 240 Electrical Analysis and Maintenance **Credit 4 (3-3)**
An introduction to troubleshooting techniques of the common problems

of direct current and alternating current machines, transformers, circuit breakers, and regulators. Emphasis will be on scheduling of maintenance, lubrication; and principles of plant maintenance.
Prerequisites: ELC 225, ELN 208.

ELC 1101 Basic Electricity **Credit 3 (2-2)**
This course covers the elementary principles of electricity, including units and terms, Ohm's Law applied, power, and other related subjects. Specific applications are made to the types of electricity used to operate various electrical devices in a building.
Prerequisite: None.

ELC 1102 Applied Electricity **Credit 5 (4-4)**
The use and care of test instruments and equipment used in servicing electrical apparatus for air conditioning and refrigeration installations. Electrical principles and procedures for trouble-shooting of the various electrical devices used in air conditioning, heating, and refrigeration equipment. Included will be transformers, various types of motors and starting devices, switches, protective devices and wiring.
Prerequisite: PHY 1101.

ELC 1112 Direct and Alternating Current **Credit 8 (5-9)**
A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchhoff's Laws. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current, flow, reactance, impedance, phase angle, power, and resonance. Analysis of alternating current circuits.
Prerequisite: MAT 1115, or advisor approval.

ELC 1113 Alternating Current and Direct Current Machines and Controls **Credit 8 (5-9)**
This course consists primarily of a study of the most common types of electrical machines and their controls. Included are D. C. generators, D. C. motors, A. C. generators, single-phase motors, and transformer connections for single-phase and three-phase. Various methods of reduced voltage starting and speed control are also investigated.
Prerequisite: ELC 1112.

ELC 1115 Basic Motor Control Circuits **Credit 1 (0-3)**
This course will consist primarily of interpreting line diagrams of various motor control circuits. Control circuits for various types of reduced-voltage starting, multispeed control, and variable speed control will be investigated. Intepretation of motor control wiring diagrams and selection of motor control equipment will also be a part of this course.
Prerequisites: ELC 1124; ELC 1113.

ELC 1124 Residential Wiring **Credit 8 (5-9)**
Provides instruction and application in the fundamentals of blueprint

reading, planning, layout, and installation of wiring in residential applications such as: services, panelboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups.
Prerequisite: None.

ELC 1125 Commercial and Industrial Wiring **Credit 9 (5-12)**
Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the application of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems.
Prerequisites: ELC 1124, ELC 1113.

ELECTRONICS

ELN 010 Introduction to Basic Electronics **Credit 4 (4-0)**
This course will provide the student with a basic understanding of electronics. Some of the topics discussed are electrical circuits, bridge circuits, simple measuring instruments, heat generation and dissipation, basic semi conduction, and basics of transistors.
Prerequisite: Advisor approval.

ELN 101 Electronic Instruments and Measurements **Credit 1 (0-3)**
A study of basic electrical and electronic instruments, their theory of operation, function, tolerances, and calibration. Both service and laboratory instruments will be studied. Laboratory experience will provide application of each type instrument studied.
Prerequisite: ELC 103.

ELN 105 Electronic Control Devices **Credit 6 (5-3)**
A study in depth of the electrical characteristics of vacuum tubes and transistors. Basic parameters and applications of each type device to the three configurations of a three terminal, two part system will be included.
Prerequisite or Corequisite: ELC 103

ELN 206 Semiconductor Circuit Analysis I **Credit 6 (5-3)**
A study in depth of the analysis and design of bipolar and field effect transistors. DC biasing and stability factors are presented. Network theorems are used extensively in evaluating total AC circuit performance. Semiconductor device parameters and limitations pertinent to reliable operations are considered. Hybrid along with other pertinent parameters are employed.
Prerequisite: ELN 105.

ELN 207 Semiconductor Circuit Analysis II **Credit 6 (5-3)**
A continuation of ELN 206. Consideration of cascading individual stages is discussed in depth. Differential amplifiers with emphasis on linear IC

circuits are discussed in depth. Four layer semiconductor devices are discussed. Practical applications of semiconductor to basic amplifiers, detectors and oscillators are discussed.
Prerequisite: ELN 206.

ELN 208 Industrial Electronics **Credit 6 (5-3)**
Electronics as applied to a production system; rectification; electronically controlled rectifiers, servomechanisms, motors; magnetic amplifiers; ultrasonic cleaning; and variable strobe light.
Prerequisites: ELN 105, ELN 207.

ELN 214 Wave Shaping and Pulse Circuits **Credit 4 (3-3)**
A study of waveforms and pulse circuit terminology applicable to periodic and aperiodic voltages. The student becomes acquainted with time constant circuits, transient circuits, differentiating and integrating circuits. Class and laboratory analysis of nonlinear wave shaping circuits using solid state and tube devices. The course goes into depth in dealing with diode and transistor switching circuits.
Prerequisites: ELN 105, MAT 103.

ELN 215 Wave Shaping and Pulse Circuits **Credit 4 (3-3)**
A study of the applications of pulse circuitry to astable, monastable, and bistable multivibrators; and the further applications of these circuits to computer systems. Classroom and laboratory analysis of basic relaxation oscillators and other time base circuitry. A study of basic logic circuits with laboratory verifications of their truth tables.
Prerequisite: ELN 214.

ELN 220 Electronic Systems **Credit 6 (5-3)**
A block diagram course investigating numerous electronic systems. Modules or blocks of various circuits already studied are arranged in various manners to produce complex electronic systems. Systems will be explained and reduced to functions and then to block diagrams. AM, FM, and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, computers, telemetry, navigational systems, sonar and radar will be considered.
Prerequisite: ELN 206.

ELN 221 Communication Systems **Credit 6 (5-3)**
This course will be a survey of mixers, amplifiers, detectors, oscillators, antennas, wave propogation, neutralization methods and harmonic suppression as related to communication systems. Block diagrams of communication systems will be considered with FCC rules and regulations required for the second class commercial license. Labs will be project oriented with emphsis on receivers and transmitters.
Prerequisite: ELN 220, ELN 207.

ELN 230 Television Systems **Credit 6 (5-3)**
A study of the principles of television including the television system,

camera tubes, scanning and synchronization, composite video signal, receiver circuits, transmitting equipment, color television, and closed-loop systems.
Prerequisite: ELN 220.

ELN 231 Color Television **Credit 6 (5-3)**
A study in the principles of Colorimetry and the physics of color as they relate to the NTSC Standard Color Television system. A block diagram study of the color camera, chrominance section, matrixing sections and the synchronization sections of the color transmitting equipment. Basic color receiver circuits are studied from schematics. Study and laboratory illustrations of specialized color testing and alignment equipment. Pruity, static and dynamic convergence adjustments are performed in the laboratory with color receivers. Sweep alignments of the tuner, I F section and the chroma bandpass amplifier are performed in the laboratory.
Prerequisite: ELN 230.

ELN 240 Computer Fundamentals **Credit 5 (4-3)**
A basic course in Digital and Analog computer systems. This course is designed to lead the student from the simplest basic logic switching functions such as semiconductor diodes and transistors to the latest high-speed integrated circuit devices. Student laboratory exercises use NOR gate modules and the latest J-K flip-flop integrated circuit modules for constructing basic gates, binary counters, shift registers, adders, multivibrators and other circuits related to computer systems. Block diagrams of functional computer systems are studied in the classroom.
Prerequisites: ELN 214, ELN 215, MAT 202.

ELN 245 Electronic Design Project **Credit 2 (0-4)**
Students are required to design and construct a project approved by the instructor. Includes selection of project, construction, and testing of completed project. Projects may include: Amplifiers, test equipment, control devices, simple counters, power supplies, etc.
Prerequisite: ELN 207, ELN 214.

ELN 1118 Industrial Electronics **Credit 5 (3-4)**
Basic theory and applications of vacuum tubes and semiconductor diodes. A study of power supplies and vacuum tube triode and pentode amplifiers. Introduction of and experimentation with transistor amplifiers using common-emitter and common-base configurations with proper biasing. Course consists of classroom theory, demonstrations, and lab experiments. Semiconductors are emphasized.
Prerequisite: ELN 1112.

ELN 1119 Industrial Electronics **Credit 5 (3-4)**
A study of the operation and applications of semiconductor devices such as zener diodes, silicon controlled rectifiers (SCR), diacs, triacs, and photo cells. Voltage regulated power supplies, cascade amplification, photo relays, time-delay circuits, and motor speed controls are con-

structed and examined in the lab. This course is designed as a continuation of ELN 1118.
Prerequisite: ELN 1118.

EMERGENCY MEDICAL

EMT 250 Emergency Medical Service I **Credit 3 (2-2)**
This course is designed to prepare the student to qualify as an Emergency Medical Technician, in a short and intensive period of time, using a basic list of emergency procedure tasks and competencies. The curriculum is based on studied criteria from the U. S. Department of Transportation, State Health Department, Public Health, American Medical Association, Ambulance Services of the U. S., and American Red Cross.
Prerequisite: None.

EMT 251 Emergency Medical Service II **Credit 3 (2-2)**
A continuation of EMT 250 Emergency Medical Service I.
Prerequisite: EMT 250.

ENGLISH

ENG 010 Spelling Improvement **Credit 5 (5-0)**
A course designed to teach the student the basic sound patterns of English whereby an improvement in spelling skills may be achieved.
Prerequisite: Advisor approval.

ENG 011 Vocabulary and Reading I **Credit 5 (5-0)**
A remedial course devoted primarily to developing good reading skills and habits. With improved reading ability as the chief emphasis of the course, word attack, reading speed and comprehension, and development of dictionary skills will be stressed. Other language arts such as listening, speaking, and writing will be emphasized.
Prerequisite: Advisor approval.

ENG 012 Vocabulary and Reading II **Credit 5 (5-0)**
A continuation of reading and vocabulary development. There will be a combination of the reading machine and book; however, the major emphasis will be on the written page. Accelerated emphasis will be placed on listening, speaking, and writing skills.
Prerequisite: Advisor approval.

ENG 013 English in Practice **Credit 5 (5-0)**
English 013 will continue to place emphasis on reading and vocabulary development. In addition, the students will be provided the opportunity to apply the basic principles of English grammar, sentence structure, punctuation, and spelling in expressing themselves in writing. Proper use of library, note-taking, and studying will continue to be emphasized.
Prerequisite: Advisor approval.

ENG 014 Written Communication **Credit 2 (2-0)**
ENG 014 is a continuation of ENG 013. This course is designed to improve the student's written communication skills.
Prerequisite: ENG 013R

ENG 015 Advanced Reading and Study Skills **Credit 4 (4-0)**
English 015 is a course which provides motivation, and direction that will enable the student to improve his efficiency in reading and study skills essential to remaining in college.
Prerequisite: Advisor approval.

ENG 016 Improvement of Reading Speed **Credit 4 (4-0)**
A course designed to help the student with his reading speed. The objectives of the course are to read faster, to read more comfortably, to read for longer periods, to read with greater accuracy, and to read with greater flexibility.
Prerequisite: Advisor approval.

ENG 018 Basic Study Skills **Credit 4 (4-0)**
This course will teach the student the basic study skills necessary to succeed in college. Topics of study include personal efficiency/time management, textbook reading, critical listening/note making, test taking, library research skills, term paper preparation and form, concentration and memory, and study related attitudes.
Prerequisite: Advisor approval.

ENG 101 Grammar and Composition **Credit 3 (3-0)**
Designed to aid the student in the improvement of self-expression in grammar. The approach is functional with emphasis on grammar, diction, punctuation, spelling, sentence structure, and paragraph construction. Intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life.
Prerequisite: None.

ENG 102 Technical Composition **Credit 3 (3-0)**
The fundamentals studied in Grammar and Composition are utilized in Technical Composition. Units in Technical Composition will stress the need for clear self-expression in business and technical writing. Emphasis is, therefore, on business letters, the letter of application and resume, and informal technical reports which describe facts and events. Vocabulary lessons emphasizing the student's chosen curriculum may be studied.
Prerequisite: ENG 101.

ENG 103 Technical Report Writing **Credit 3 (3-0)**
Technical Report Writing is designed to be a continuation of Technical Composition. Exercises in developing informal reports which describe ideas and concepts will be emphasized. Other technical documents utilizing description, instructions, and illustrations will be stressed. Prac-

tical application in the preparation of a full-length formal report is required of each student in his chosen curriculum.
Prerequisite: ENG 102.

ENG 104 Technical Composition for Nurses **Credit 4 (3-2)**
The fundamentals studied in Grammar and Composition are utilized in Technical Composition for Nurses. Units will stress the need for clear self-expression in business and technical writing with emphasis on business letters, the letter of application and resume, and informal reports. Also the preparation of a full-length formal report stressing procedures in research will be required. Medical terminology will also be studied.
Prerequisite: ENG 101 and advisor approval.

ENG 204 Oral Communications **Credit 3 (3-0)**
A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention given to conducting meetings, conference, and interviews.
Prerequisite: ENG 101

ENG 205 Children's Literature **Credit 4 (3-2)**
Study of literature for young children with emphasis on the criteria for evaluating the literary value of children's books. Extensive reading and development of topical files will provide resources for selection of appropriate materials for use in practicum and for developing skills in oral reading and storytelling.
Prerequisite: None.

ENG 206 Business Communications **Credit 3 (3-0)**
Develops skills in techniques in writing business communications. Emphasis is placed on writing action-getting sales letters and prospectuses. Business reports, summaries of business conferences, letters involving credit, collections, adjustments, complaints orders, acknowledgements, remittances, and inquiry.
Prerequisites: ENG 102, BUS 102.

ENG 208 Communications with Children **Credit 3 (3-0)**
Study of basic concepts and principles in communication skills -- listening, speaking, reading, writing, and spelling. Emphasis will be placed on language development in relation to adult models and the child's early experiences.
Prerequisite: None.

ENG 1101 Reading Improvement **Credit 2 (2-0)**
Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of

recognition, to increase eye coordination and word group recognition and to train for comprehension in larger units.
Prerequisite: None.

ENG 1102 Communication Skills I **Credit 3 (3-0)**
Designed to promote effective communication through correct language usage in writing and speaking. Simulated job situations will be used to give the student extensive practice in writing memorandums, letters of application, resumes, other business and technical letters, and reports. The student will be provided opportunities for both formal and informal occasions.
Prerequisite: None.

ENG 1104 Communication Skills II **Credit 3 (3-0)**
Continuation of Communication Skills I, emphasizing the theory and practice of mastering effective communication with people on the job as speakers, listeners, and writers. Emphasis is placed on student practice in the methods of accomplishing effective communications in job related situations. Particular attention will be given to conducting and participating in business meetings.
Prerequisite: ENG 1102.

FIRE PROTECTION

FIP 010 Introduction to Basic Safety **Credit 1 (1-0)**
This course will provide the student with an understanding of basic safety. Some of the topics discussed are safety and production, recognizing accident causes, influencing people to work safely, materials handling, housekeeping, and how to instruct.

FIP 102 Municipal Fire Protection **Credit 3 (3-0)**
Fire department organization, personnel management, and the department's relationship with other city departments. Evaluation of public fire protection needs, financial factors, records and reports, equipment procurement policies, apparatus tools, training needs and programs, maintenance needs and facilities, and other equipment necessary for modern fire protection.
Prerequisite: None.

FIP 104 Introduction to Fire Science **Credit 3 (2-3)**
History and development of the fire science movement. The roles of fire service personnel as they pertain to the overall problems of protecting life and property from fire and other perils. Emphasis is placed on fireground tactics and special fire suppression and rescue problems.
Prerequisite: None.

FIP 106 Municipal Fire Protection and Finance **Credit 3 (3-0)**
Evaluation of public fire protection needs, equipment procurement policies, maintenance needs and facilities, records and reports, training

programs. A study of budget preparation, justifying budgets, types of budgets, and record systems.
Prerequisite: None.

FIP 108 Structural Fire Protection and Material Rating **Credit 4 (3-3)**
The study of fire protection as related to all types of structures. Types of construction, built in fire protection features, construction materials and the resistance to fire are emphasized. Ratings of materials are studied and established through lab exercises.
Prerequisites: FST 101 and 102.

FIP 115 Fire Prevention Programs **Credit 3 (3-0)**
Principles and application of fire prevention related to the community and industrial plants. The development and maintenance of fire prevention programs, educational programs, and inspection programs. Specific applications of related disciplines to fire prevention problems.
Prerequisite: None.

FIP 125 Municipal Organization **Credit 5 (5-0)**
This course is based upon the study of sound government principles and practice. A study of budget items, preparation of budget, justifying budgets, financial statements, cost accounting and record systems, taxation and audits. Also a review of public relations such as planning, staffing, controlling and directing information to the general public.
Prerequisite: None.

FIP 135 Training Programs and Methods of Instruction **Credit 3 (2-3)**
Purposes of fire service drills and training programs. The development and operation of the departments' training programs. Facilities and equipment necessary for modern training. Selecting and training the instructional staff. Suitable methods of instruction.
Prerequisite: None.

FIP 200 Insurance **Credit 3 (3-0)**
A fundamental course covering all fields of insurance. The philosophy and principles of insurance, contracts, endorsements, fire, casualty, workmen's compensation will be emphasized.
Prerequisite: None.

FIP 201 Fire Detection & Investigation **Credit 4 (3-3)**
Prepares the fireman for his responsibility in detecting and preserving evidence. An overview of the legal aspects of arson. Examining potential sources of ignition, structural fire patterns, devices used by arsonists, and investigative techniques.
Prerequisite: None.

FIP 202 Introduction to Building Construction **Credit 3 (3-0)**
A study of building construction principles with emphasis placed on

fireground tactics and strategy employed prior to and during fire situations. Equal consideration is given to the importance of fire prevention and preplanning inspections conducted at the various types of properties and the proper utilization of the information gained from each.
Prerequisite: None.

FIP 203 Fire Prevention Programs and Public Relations **Credit 3 (2-3)**
The development and implementation of fire prevention programs, educational programs and inspection programs. Principles of public relations such as planning, controlling and directing information to the general public. Tested programs are studied to assist in adaption to local needs.
Prerequisite: None.

FIP 206 Hazardous Chemicals and Materials **Credit 4 (3-2)**
Problems and precautions associated with safe storage and use of hazardous materials with emphasis upon the use of the National Fire Protection Association's Hazardous Materials Handbook.
Prerequisite: CHM 111.

FIP 211 Grading of Fire Defenses **Credit 3 (3-0)**
Insurance grading schedules and their principles of application. Methods of analyzing fire hazards and the effects of fire hazards on fire insurance rates. A study of the Insurance Services Office (I.S.O.) Grading Schedule is made in detail with other schedules covered briefly.
Prerequisite: Advisor approval.

FIP 220 Fire Fighting Strategy **Credit 4 (3-2)**
The aspects of tactics and strategy in extinguishing fires. Pre-fire plans, mutual aid problems, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires by fuel analysis. Emphasis will be on developing thinking skills in relation to crises.
Prerequisite: FIP 102 or FST 103.

FIP 225 Fire Protection Law (see description on page 202)

FIP 229 Water Hydraulics **Credit 4 (3-3)**
A study of fluids in motion and at rest. The behavior and effects of water in and through appliances, pumps, and pipes. Practical application of principles and calculation.
Prerequisites: PHY 102, MAT 102.

FIP 230 Hydraulics and Water Distribution Systems **Credit 3 (2-3)**
Mechanics of the flow of fluids through fire hose, nozzles and appliances, pumps, standpipes, watermains, and other devices. Design, testing, and use of nozzles and appliances, pumps, and water distribution systems. Measurements of fluid flow and methods of determining quantities of water available from a distribution system.
Practical applications of principles.
Prerequisites: MAT 101, PHY 106.

FIP 231 Sprinkler and Standpipe Systems **Credit 4 (3-3)**
Types of sprinkler and standpipe systems, system devices and their operation, advantages of sprinkler systems, codes governing installation, water supply requirements, testing, inspection, and maintenance. Course includes hydraulic design.
Prerequisite: FIP 230 or FIP 233.

FIP 232 A Practical Understanding of Sprinkler Systems **Credit 2 (1-2)**
A study of sprinkler systems and related equipment. Emphasis is placed on hardware, operating principles, maintenance requirements, resetting techniques, and differences between operating characteristics.
Prerequisite: None.

FIP 233 Water Distribution **Credit 4 (3-2)**
A study of physical principles and mechanics involved in determining flow requirements and methods of distributing water through carriers.
Prerequisite: FIP 229.

FIP 234 Pump, Sprinkler and Standpipe Systems **Credit 4 (3-3)**
Types of sprinkler and standpipe systems, system devices and their operation, advantages of sprinkler systems, codes governing installation, water supply requirements, testing, inspection, and maintenance.
Prerequisite: FIP 230 or FIP 233.

FIP 244 Fire Alarm Systems **Credit 3 (3-0)**
A study of different principles and types of alarm systems, their operation, application, installation and maintenance.
Prerequisite: None.

FIP 246 Portable and Fixed Extinguishing Systems **Credit 4 (3-2)**
A study of various types of portable and fixed extinguishing systems, their operation, application, installation and maintenance.
Prerequisite: FST 104.

FIP 250 Special Problems in Fire Protection **Credit 3 (1-6)**
This course provides for individual student research in special fire protection problems. All elements of sound fire protection practices will be brought to bear in finding solutions to problems chosen by the student or assigned by the instructor. The student is encouraged to pursue the problem on a logical, sequential basis and will be required to submit a full research paper upon completion of the project. A one hour seminar will be held each week to allow collective help from fellow students in critical areas and guidance from the instructor.
Prerequisite: Advisor approval.

FIRE SAFETY

FST 101 Introduction to Fire Protection **Credit 3 (2-3)**
History and development of the fire protection movement. The roles of fire protection, fire service, and industrial safety personnel as they pertain to the overall problems of protecting life and property from fire. Emphasis is placed on fireground tactics and special fire suppression and rescue problems.
Prerequisite: None.

FST 103 Industrial Fire Hazards **Credit 4 (3-3)**
A study of hazardous processes in industries such as plastics, furniture, tobacco, metal, textiles, etc., and the protection and precautions needed for personnel and property safety from fire. Fire hazards that are related to heating plants, electrical systems, and storage in all industries.
Prerequisite: FST 101 or FIP 104.

FST 107 Fire Protection Codes and Standards **Credit 3 (2-3)**
Study of current building codes, and fire protection codes and standards and how they are applied. Emphasis is placed on the National Building Code, Fire Prevention Code, and the Life Safety Code as well as other National Fire Codes. Lab exercises are designed to apply the codes and arrive at reasonable solutions.
Prerequisite: None.

FST 209 Hazardous Materials **Credit 4 (3-2)**
Problems and precautions associated with safe storage and use of hazardous materials.
Prerequisite: FST 103.

FST 210 Inspection Principles and Practices **Credit 3 (2-3)**
A study of the fundamentals of fire inspections including standards, techniques of evaluation of hazards as to degree of the hazard, and practical recommendations. Reports including maps and sketches of each building inspected. On-the-site inspections of buildings to locate hazards and to recommend safe practices and improvements.
Prerequisite: FIP 202 and FIP 107; or FST 103 and SAF 201; or FST 103 and FIP 107.

HEALTH EDUCATION

HED 101 Physical Conditioning I **Credit 1 (0-3)**
Designed to aid the student in his overall physical development and improvement. Physical endurance and muscle tone will be stressed with primary emphasis on building confidence in one's own abilities.
Prerequisite: Have form completed by physician as proof of your physical fitness.

HED 102 Physical Conditioning II **Credit 1 (0-3)**

A continuation of HED 101 Physical Conditioning I with additional track and field events and intramural team sports.

Prerequisite: HED 101, have form completed by physician as proof of your physical fitness if over one year since your last physical, and advisor approval.

HED 103 Physical Conditioning III **Credit 1 (0-3)**

A continuation of HED 102 Physical Conditioning II with additional track and field events and intramural team sports.

Prerequisite: HED 102, have form completed by physician as proof of your physical fitness if over one year since your last physical, and advisor approval.

HED 104 Physical Conditioning IV **Credit 1 (0-3)**

A continuation of HED 103 Physical Conditioning III with additional track and field events and intramural team sports.

Prerequisite: HED 103, have form completed by physician as proof of your physical fitness if over one year since your last physical, and advisor approval.

HED 111 Health and Safety for Young Children **Credit 2 (2-0)**

Study of practices and procedures which influence physical and emotional health during infancy and childhood. First aid training will help the individual acquire knowledge and skill for emergency care and for prevention of accidents.

Prerequisite: None.

HED 201 Nutrition **Credit 3 (3-0)**

Study of basic nutrition, with emphasis on (1) methods of helping your children and their families learn nutritional concepts and (2) planning balanced diets for preschool children.

Prerequisite: None.

HED 204 Physical Activities for Young Children **Credit 3 (3-0)**

Exploration of activities for promoting optimal overall physical development of young children, with special emphasis on body movement and exercise, dance and games.

Prerequisite: None.

INDUSTRIAL SCIENCE

ISC 120 Principles of Industrial Management **Credit 5 (4-3)**

The basic managerial decisions; organizational structure including plant location, building requirements, and internal factory organization; problems of factory operation and control, planning, scheduling, routing factory production, stores control, labor control, purchasing, cost control. Plant problems are utilized as lab experiments.

Prerequisite: None.

ISC 201 Industrial Organization and Management **Credit 3 (3-0)**

Organizational structure for industrial management, operational and financial activities, including accounting, budgeting, banking, credit and industrial risk, forecasting of markets, selection and layout of physical facilities, selection, training and supervision of personnel as found in typical industrial organizations.
Prerequisite: None.

ISC 202 Quality Control **Credit 4 (3-3)**

Principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structure, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests for significance.
Prerequisite: None.

ISC 203 Time and Motion Study **Credit 4 (3-3)**

Types of methods studies and their applications will be introduced. Process charts, analysis sheets, time study, work simplification, skill and effort rating, work sampling, and predetermined time systems will be covered.
Prerequisite: None.

ISC 204 Value Analysis **Credit 3 (3-0)**

The modern concept in the control of manufacturing production. This course will provide the students an opportunity to study a production system with the specific purpose of identifying unnecessary costs. The objective of the concepts and techniques of value analysis is to make possible a degree of effectiveness in identifying and removing unnecessary cost by the use of sound decisions through a common sense approach.
Prerequisite: None.

ISC 209 Plant Layout **Credit 4 (3-2)**

A practical study of factory planning with emphasis on the most efficient arrangements of work areas to achieve lower manufacturing costs. Layouts for small and medium-sized plants, layout fundamentals, selection of production equipment and materials handling equipment. Effective management of men, money and materials in a manufacturing operation.
Prerequisite: None.

ISC 210 Job Analysis and Evaluation **Credit 4 (3-2)**

This study is based on product studies as well as personnel and wage program. The course utilizes the study of product design, value analysis, materials and processes as an intricate part of productive procedures.
Prerequisite: None.

ISC 211 Work Measurement **Credit 4 (3-2)**

This course is designed to give students a broad concept of work

measurement as a management tool. It includes a study of methods and techniques utilizing flow and process charts, multiple activity charts, operations charts, flow diagrams, work sampling, personnel and work scheduling, standards development, and time and motion data utilization. Students will be afforded laboratory experiences to develop proficiency in the application of the aforementioned management tools. The preparation of written analyses, based on the findings during laboratory periods, will be an integral part of the course.
Prerequisite. None.

ISC 220 Management Problems **Credit 5 (3-4)**
A study of personnel and production problems from the standpoint of the management staff. Includes selection and development of products, control problems and techniques, development of standards, employee-employer relations developing the executive staff. Case studies are utilized.
Prerequisite: ISC 201.

ISC 1101 Industrial Safety **Credit 3 (3-0)**
A study of the overall picture of the accident toll for the nation's population. It is designed to establish safe work habits in performing the occupation. Principles of accident prevention; injury sources and causes; accident costs; job safety analysis; accident investigation; methods of promoting safe practice, safety education and training; first aid; lifting-manually and mechanically; and fire prevention and protection are some of the topics discussed.
Prerequisite: None.

MASONRY

MAS 1101 General Masonry **Credit 10 (4-18)**
The history of the bricklaying and the masonry industry, raw materials, basic manufacturing processes and terminology. Clay and shell brick, mortar, laying foundations, cutting masonry materials, bonding, and the use, care, and maintenance of tools. Practice is given in selecting the proper mortars, layout and construction of various building elements.
Prerequisite: None.

MATHEMATICS

MAT 010 Arithmetic I **Credit 5 (5-0)**
An individualized arithmetic course in which the student will be given a placement inventory to determine the specific objectives he/she should study in the topics of whole numbers and fractions.
Prerequisite: Advisor approval.

MAT 011 Arithmetic II **Credit 5 (5-0)**
A review of basic operations of arithmetic to include whole numbers, number bases, fractions, decimals, and percentage.
Prerequisite: Advisor approval.

MAT 012 Algebra I **Credit 5 (5-0)**
Basic concepts and operations of algebra, algebraic symbols, counting numbers, integers, rational numbers, first degree equations, and exponents.
Prerequisite: Advisor approval.

MAT 013 Algebra II **Credit 5 (5-0)**
Continuation of MAT 012. Equations involving two variables, algebraic polynomials, factoring, stated word problems, and fractional and quadratic equations.
Prerequisite: Advisor approval.

MAT 014 Algebra III **Credit 5 (5-0)**
Continuation of MAT 013. System of rational numbers; system of real numbers; system of complex numbers; sets, relations, and functions; inequalities; and absolute value.
Prerequisite: Advisor approval.

MAT 015 Algebra IV **Credit 5 (5-0)**
Continuation of MAT 014. Graphing, exponents, factoring, and logarithms.
Prerequisite: Advisor approval.

MAT 016 Plane Geometry **Credit 5 (5-0)**
A survey course in plane geometry in which the student will study points, lines, planes, space, angles, perpendiculars and parallels, polygons, and circles.
Prerequisite: Advisor approval.

MAT 017 Metric System **Credit 1 (1-0)**
A programmed introduction to the metric system which gives the student a basic comprehension of the metric system.
Prerequisite: Advisor approval.

MAT 018 Basic Slide Rule Operation **Credit 2 (2-0)**
A course in which the student will learn how to read the slide rule and solve simple problems in multiplication and division using the C and D scales, the folded CF and DF scales and the inverted scales CI, CIF, and DI. The student will also use the A and B scales to solve problems involving squares or square roots and the K scale to solve problems involving cubes and cube roots.
Prerequisite: Advisor approval.

MAT 019 Trigonometry **Credit 5 (5-0)**
A programmed introduction to trigonometry which gives the student a basic understanding of trigonometric relationships. Emphasis is placed on the sine, cosine, and tangent functions; their co-functions; and the use of trigonometric tables.
Prerequisite: MAT 012, advisor approval.

MAT 100 Essentials of Mathematics **Credit 5 (5-0)**
A study of fundamental processes: addition, subtraction, multiplication and division of whole numbers and common and decimal fractions. The basic numbering systems and their relationships and basic measuring systems are studied. The manipulation and application of percents and the essentials of algebraic operations used with percents.
Prerequisite: None.

MAT 101 Technical Mathematics **Credit 5 (5-0)**
The real number system is developed as an extension of the natural numbers. Fundamental algebraic concepts and operations using real numbers are introduced and discussed at length. The rectangular coordinate system is introduced and used extensively. Linear equations, both numeric and literal, are examined extensively from both an algebraic and graphical point of view. Methods of solution of systems of linear equations is discussed in detail. The slide rule is introduced and used for elementary operations. A basic geometry review is included.
Prerequisite: Satisfactory evidence that admission requirements have been met.

MAT 102 Technical Mathematics **Credit 5 (5-0)**
Trigonometry of the right triangle is developed from fundamental geometric relationships and is studied in depth. Emphasis is placed on sine, cosine, and tangent relationships and evaluation of functions containing them. The complex number system is introduced and the results used to develop "J" operator techniques for analysis of trigonometric relationships. Further general trigonometric relationships are also introduced along with trigonometric identities.
Prerequisite: MAT 101.

MAT 103 Technical Mathematics **Credit 5 (5-0)**
Concepts of exponents and radicals are introduced and algebraic manipulation stressed. Exponential and logarithmic concepts are introduced with the interrelationships emphasized. Solving exponential and logarithmic equations involving decibels and time constants is also emphasized. Quadratic equations are defined and methods of solving them investigated. The fundamental concepts of analytical geometry are introduced.
Prerequisite: MAT 102.

MAT 108 Radiologic Mathematics **Credit 3 (3-0)**
This course includes the basic operations of addition, subtraction, multiplication and division; the basic concepts of algebra; graphical representation; logarithms; geometry and trigonometry. The student will be introduced to the use of a slide rule.
Prerequisite: None.

MAT 110 Business Mathematics **Credit 5 (5-0)**
This course stresses the fundamental operations and their application to

business problems. Topics covered include payrolls, price marking, interest and discount, commission, taxes, and pertinent uses of mathematics in the field of business.
Prerequisite: MAT 100 or equivalent.

MAT 133 Criminal Justice Mathematics **Credit 5 (5-0)**
The math principles presented are designed to meet the needs of the criminal justice-protective service professional. Topics studied are formulas, logarithms, right triangle trigonometry, graphing, and statistics in relation to applications for VASCAR, breathalyzer, radar, and other such devices.
Prerequisite: Satisfactory evidence that admission requirements have been met.

MAT 201 Technical Mathematics **Credit 5 (5-0)**
The theory of higher order polynominals is introduced with emphasis on graphical and algebraic techniques for analyzing important properties of a given polynomial. The sequence and infinite series are introduced with emphasis on the infinite power series. Convergence and divergence is defined and sigma notation is introduced. Trigonometric fourier analysis is introduced and applied to the analysis of common periodic complex waveforms. The concepts of single variable differential and integral calculus is introduced. Some of the topics covered are: instataneous rate of change, the derivative, the composite function rule and differentation of trigonometric, exponential, and logarithmic functions. Also definite and indefinite integrals are discussed.
Prerequisite: MAT 103.

MAT 202 Computer Mathematics **Credit 2 (2-0)**
A specialized computer oriented mathematics course in which the number system of various bases is introduced with emphasis on binary base and other bases of 2_n (where n is an integer). Counting as well as the basic mathematical operations in these bases is emphasized. Concepts of boolean algebra are introduced and applied in the analysis of switching and gating circuitry. Algebraic and truth table solution of circuit problems is stressed.
Prerequisite: MAT 101

MAT 1101 Fundamentals of Mathematics **Credit 5 (5-0)**
Practical number theory. Analysis of basic operations; addition, subtraction, multiplication and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures used in industry, measurement of surfaces and volumes. Introduction to algebra used in trades. Practice in depth.
Prerequisite: None.

MAT 1101A Fundamentals of Math **Credit 3 (3-0)**
Practical number theory. Analysis of basic operations: addition, subtraction, multiplication, and division. Fractions, decimals, powers and

roots, percentages, ratio and proportion as applied to the building trades.
Prerequisite: None.

MAT 1101B Fundamentals of Math **Credit 2 (2-0)**
Plane and solid geometric figures using industrial applications; measurement of surfaces and volumes. Introduction to algebra using formulas applicable to the building trades. Practice in depth using related problems.
Prerequisite: MAT 1101A or advisor approval.

MAT 1102 Algebra **Credit 5 (5-0)**
Basic concepts and operations of algebra: historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring ratio and proportions, variation; graphical and algebraic solution of first degree equations; solution of simultaneous equations by addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation.
Prerequisite: None.

MAT 1103 Geometry **Credit 3 (3-0)**
Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometric construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles are applied to shop operations.
Prerequisite: MAT 1101.

MAT 1104 Trigonometry **Credit 3 (3-0)**
Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems.
Prerequisite: MAT 1103.

MAT 1112 Construction Estimating **Credit 3 (3-0)**
This is a practical course in quantity "take-off" from prints of jobs to be performed by the builder. Practical problems dealing with volumes, weights, ratios, mensuration, and basic estimating practices for building materials.
Prerequisite: MAT 1101B, DFT 1145 or advisor approval.

MAT 1115 Electrical Math I **Credit 5 (5-0)**
A study of fundamental concepts of algebra; basic operations of addition, subtraction, multiplication, and division; solution of first order equations, use of letters and signs, grouping, factoring, exponents. Powers of ten and conversion of electrical units.
Prerequisite: None.

MAT 1116 Electrical Math II **Credit 5 (5-0)**
An introduction to trigonometry and vectors needed in alternating cur-

rent circuits; a study of right triangles and resolution of vector quantities. Also solutions of simultaneous and quadratic equations.
Prerequisite: MAT 1115 or advisor approval.

MAT 1123 Machinist Mathematics **Credit 3 (3-0)**
Make practical application of mathematical problems, including geometrical proportions and trigonometry through the use of Machinery's Handbook. Practice will be given in locating and interpretation of the various tables, charts, and graphs in the handbook.
Prerequisite: MAT 1104.

MECHANICAL

MEC 010 Introduction to Basic Maintenance Mechanics I **Credit 4 (4-0)**
This course will provide the student with an understanding of the proper selection and use of lubricants within the plant; application of couplings, clutches, gears, and other drive elements; typical in-plant applications of piping, tubing, hose, and fittings; and the proper installation, inspection, and maintenance of journal and frictionless bearings.
Prerequisite: Advisor approval.

MEC 011 Introduction to Basic Maintenance Mechanics II **Credit 4 (4-0)**
This course will provide the student with an understanding of the principles and operating characteristics of hydraulic systems and components; principles and operating characteristics of compressed air systems and components; how to diagnose hydraulic system problems and properly install components.
Prerequisite: Advisor approval.

MEC 012 Introduction to Basic Hand Tools **Credit 2 (2-0)**
This course will provide the student with an understanding of the following types of hand tools: measuring tools; wrenches and screwdrivers; pipefitting tools; plumbing tools; electrical tools; cement, plastering, and glazing tools; woodworking tools; metalworking tools; hoisting and pulling tools. AHR 010 will also provide the student with some logical ways to identify and correct maintenance problems.
Prerequisite: Advisor approval.

MEC 101 Machine Processes **Credit 2 (0-6)**
An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals and cutting tools. The student will become familiar with drill presses, lathes, saws, and milling machines. The student will perform selected operations such as turning, facing, threading, drilling, boring, reaming, etc.
Prerequisite: None.

MEC 102 Machine Processes **Credit 2 (0-6)**
Theory and practice with shaper, slotter, planer, turret lathe, screw machine, gear cutting machines, and grinding and finishing machines will be studied along with other common production processes.
Prerequisite: MEC 101.

MEC 103 Machine Processes **Credit 3 (0-9)**
The new methods of producing goods, handling work and automatic machining processes will be studied. Emphasis will be placed on numerical control, high-energy forming, electrical discharge machining, flame spraying, and chemical milling.
Prerequisite: MEC 102.

MEC 105 Statics **Credit 4 (3-2)**
Fundamental concepts of mechanics, balance of force systems, equilibrium of force systems. Fundamental principles of statics and the application of these principles to mechanical problems.
Prerequisites: MAT 102, PHY 102.

MEC 110 Fundamentals of Mechanisms **Credit 4 (3-3)**
A study of the purpose and actions of cams, cables, gear trains, differentials, screws, belts, pulleys, shafts, levers, and other mechanical devices used to transmit or control signals.
Prerequisite: PHY 102.

MEC 200 Metrology **Credit 3 (2-3)**
An introduction to metrology and the study of measuring instruments. Instruction is given in the principles, terminology and the use and care of precision instruments for inspection.
Prerequisite: MEC 103.

MEC 205 Strength of Materials **Credit 4 (3-2)**
Study of principles and analysis of stresses which occur within machine and structure elements subjected to various types of loads such as static, impact, varying and dynamic. Analyses of these stresses are made as applied to thin-walled cylinders and spheres, riveted and welder joints, beams, columns and machine components.
Prerequisites: MAT 103 and MEC 105.

MEC 210 Physical Metallurgy **Credit 4 (3-3)**
Introductory course in metallurgy, a basic study of the properties of metals and alloys. Analysis of the structure of metals and alloys, atomic structure. Solid (crystalline) structure, methods of designating crystal planes, liquid and vapor phases, phase diagrams and alloy systems. Heat treatment of steels is covered. The tools of the metallurgist and the most common tests for metallic materials are described.
Prerequisites: CHM 111, PHY 101.

MEC 211 Physical Metallurgy **Credit 4 (3-3)**
Continuation of the study of physical metallurgy. The metallurgy of alloy and tool steels, wrought and cast iron, non-ferrous metals and alloys, the

corrosion of metals, and powder metallurgy will be covered. Other engineering materials such as glass, ceramics, plastics, and elastomers will be covered briefly. Laboratory experiments and demonstrations will be performed.
Prerequisite: MEC 210.

MEC 213 Production Planning **Credit 4 (3-3)**
Day-to-day plant direction: forecasting, product planning and control, scheduling, dispatching, routing, and inventory control. Case histories are discussed in the classroom, and courses of corrective action are developed.
Prerequisite: None.

MEC 214 Thermodynamics **Credit 3 (3-0)**
A basic course to familiarize the student with the principles of thermodynamics. Topics include heat, temperature, work and the first and second laws of thermodynamics, with basic applications. Gases, vapor cycles, combustion and the internal combustion engine are studied.
Prerequisite: PHY 102, CHM 111.

MEC 235 Hydraulics and Pneumatics **Credit 4 (3-3)**
The basic theories of hydraulic and pneumatic systems. Combinations of systems in various circuits. Basic designs and functions of circuits and motors, controls, electrohydraulic servomechanisms, plumbing, filtration, accumulators and reservoirs.
Prerequisite: PHY 102.

MEC 1101 Machine Shop Theory And Practice **Credit 7 (3-12)**
An introduction to the machinist trade and the potential it holds for the craftsman. Deals primarily with the identification, care and use of basic hand tools and precision measuring instruments. Elementary layout procedures and processes of lathe, drill press, and grinding (offhand) will be introduced both in theory and practice.
Prerequisite: None.

MEC 1102 Machine Shop Theory And Practice **Credit 7 (3-12)**
Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine and shaper. The student will be introduced to the basic operations and will select projects encompassing all the operations, tools and procedures thus far used and those to be stressed throughout the course.
Prerequisite: MEC 1101, DFT 1104.

MEC 1103 Machine Shop Theory And Practice **Credit 7 (3-12)**
Advanced work on the engine, lathe, turning, boring and threading machines, grinders, milling machine and shaper. Introduction to basic indexing and terminology with additional processes on calculating, cutting and measuring of spur, helical, and worm gears and wheels. The trainee will use precision tools and measuring instruments such as vernier height gauges, protractors, comparators, etc. Basic exercises will be given on the turret lathe.
Prerequisite: MEC 1102, DFT 1105.

MEC 1104 Machine Shop Theory And Practice **Credit 7 (3-12)**
Development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully and establishing of good work habits and attitudes acceptable to the industry.
Prerequisite: MEC 1103, DFT 1106.

MEC 1110 Numerical Control Theory and Practice I **Credit 2 (1-2)**
An introduction to numerical control presented by lecture, films, textbook and student tests. Demonstrations by the instructor of the various pieces of N/C machining and peripheral equipment in the machine shop, pointing out the various controls and operating procedures including safety instruction.. Students will program, set up, and operate the various shop N/C equipment while working on projects.
Prerequisites: MEC 1101, MAT 1101.

MEC 1111 Numerical Control Theory and Practice II **Credit 2 (1-2)**
An advanced course in numerical control presented by lecture, films, textbook, student tests, and demonstrations by the instructor. Students will program, set up and operate the various pieces of N/C equipment in the machine shop while working on projects. Minor troubleshooting and maintenance of the N/C equipment will be covered.
Prerequisite: MEC 1110.

MEC 1112 Machine Shop Processes **Credit 2 (1-3)**
To acquaint the student with the procedures of layout work and the correct use of hand and machine tools. Experiences in the basic fundamentals of drill press and lathe operation; hand grinding of drill bits and lathe tools; set-up work applied to the trade.
Prerequisite: None.

MEC 1113 Shop Processes **Credit 2 (0-6)**
Study of practices used in metalworking shops: introduction to how materials can be utilized, and to the processes of shaping, forming and fabricating of metals. Demonstration of the metalworking lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear cutting machines and finishing machines. A study of the capabilities of these machines.
Prerequisite: None.

MEC 1114 Shop Processes **Credit 2 (0-6)**
Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes are demonstrated and discussed. Mass-production methods are studied in relationship to precision dimensional control.
Prerequisite: MEC 1113.

MEC 1115 Treatment of Ferrous Metals **Credit 3 (2-3)**
Investigates the properties of ferrous metals and tests to determine their

uses. Instruction will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments, alloy of special steel, classification of steels, and cast iron will be topics for study.
Prerequisite: None.

MEC 1116 Treatment of Non Ferrous Metals **Credit 3 (2-3)**
Continuation of the study of physical metallurgy. The non-ferrous metals: bearing metals, (brass, bronze, lead); light metals (aluminum and magnesium); and copper and its alloys are studied. Powder metallurgy, titanium, zirconium, indium and vanadium are included in this course.
Prerequisite: MEC 1115.

MEC 1117 Basic Machine Shop **Credit 4 (2-4)**
The student will be introduced to operations and procedures needed to perform on-the-job operations on the drill press, lathe, and milling machine. The proper use of measuring devices commonly found in a machine shop and also simple job repair and rebuilding will be a part of this course. Basic machine tool and shop safety will also be stressed.
Prerequisite: MEC 1112.

MEC 1120 Sheet Metal Layout and Fabrication **Credit 5 (3-6)**
A study of duct materials, safety, sheet metal hand tools, cutting and shaping machines, fasteners and fabrication practices, layout methods, and development of duct systems. A study is made of duct fittings, dampers and regulators, diffusers, and insulation. Lab work consists of pattern layout and fitting assembly.
Prerequisite: DFT 1116, AHR 1123
Corequisite: AHR 1126.

MEC 1135 Mechanical and Electrical Installations **Credit 3 (1-6)**
Installations of built-in appliances and other mechanical and electrical equipment found in the modern home or small commercial building will be studied in connection with framing and finishing of the carpentry work. Also, the student will learn the types of plumbing, heating, air conditioning, and automatic sprinkler systems to be installed along with other appliances as stoves, ovens, dishwashers and refrigerators. Field trips will be frequently utilized.
Prerequisite: ELC 1101, CAR 1102 or advisor approval.

MUSIC

MUS 105 Creative Activities I — Music and Dramatics **Credit 3 (2-2)**
Designed to develop an awareness of the fundamentals of music and the types of music appropriate for young children. Students will learn to utilize a wide variety of materials for rhythm and instrumental performance and for dramatic play. Laboratory sessions will provide opportunities for practice, planning, and file development.
Prerequisite: None.

NURSING

NUR 100 Orientation **Credit 2 (2-0)**

A course required of all nursing students at Rowan Technical Institute which introduces them to school life and study emphasizing techniques of learning, student life, academic regulations, and assists them in understanding the objectives and functions of Rowan Technical Institute as it relates to the State, the community and the student.
Prerequisite: None.

NUR 101 Fundamentals of Nursing I **Credit 7 (4-9)**

A sequence of planned learning experiences designed to develop the basic knowledge, understanding, and skills of nursing care. Directed toward aiding in the development of skill in human relationships; imparting knowledge of the importance of physical, chemical, and bacteriological hazards in the environment of the individual; learning to observe, identify, report, and record significant information accurately and objectively; developing skill in the problem-solving process; and knowing the philosophy, objectives, and purpose of the Associate Degree Nursing Program and how it is related to other patterns in basic nursing education.
Prerequisite: None.

NUR 102 Fundamentals of Nursing II **Credit 7 (4-9)**

Continuation of NUR 101. Includes the teaching role in nursing, rehabilitation as an aspect of comprehensive care, administration of therapeutic agents, asepsis in relation to the care of wounds and application of dressings and in controlling communicable diseases, nursing measures in an emergency and in care of the terminally ill patient. Scientific principles and their application are stressed; emphasis throughout is on interpersonal relations and the normal physiology of the different age groups.
Prerequisite: NUR 101, BIO 105.

NUR 103 Maternal and Child Care **Credit 8 (4-12)**

Deals with the physiological, psychological, emotional, social and spiritual factors involved in the care of mothers and children. The family unit serves as the framework for the study of the nursing care of mothers during the maternity cycle and of infants. The normal aspects of child care are stressed. Adaptations are made to include complications commonly occurring during the maternity cycle.
Prerequisite: NUR 102, BIO 106.

NUR 104 Pharmacology **Credit 3 (3-0)**

The course provides a basic understanding of drugs and drug therapy. It is divided into three parts: basic information which will be needed in all clinical areas; basic information about the administration of drugs; and information on drugs and their use in the treatment of specific disease entities. Drugs used in relation to specific types of patients and in common medical-surgical conditions will be integrated throughout Nursing 201, 202, and 204.
Prerequisite: NUR 102, BIO 104.

NUR 109 Nutrition **Credit 3 (3-0)**

The course provides a basic understanding of the principles underlying nutrition as they apply to the needs of the normal form childhood through maturation. Emphasis is placed on the responsibilities of the nurse in promoting good nutrition. Diet therapy will be integrated throughout Nursing 201, 202, and 204. Nutrition in maternal and child health will be integrated throughout Nursing 103.
Prerequisite: None.

NUR 201 Nursing Care in Physical and Mental Illness I
Credit 10 (5-15)

Nursing 201 is an introduction to the process of assessing the patient's needs based on a beginning knowledge of the concepts underlying mental health and illness, cause and prevention of disease and supportive and therapeutic modalities.
Prerequisite: NUR 103, BIO 104.

NUR 202 Nursing Care In Physical And Mental Illness II
Credit 11 (5-18)

Nursing 202 is an introduction to the nursing needs of the patient with oncologic, hematologic and allergic disorders and disease entities of the respiratory, musculo-skeletal, urinary, and reproductive systems.
Prerequisites: NUR 104, 201.

NUR 203 Nursing History and Trends **Credit 3 (3-0)**

A study of the major trends in modern nursing and their effects on nursing service and nursing education. Emphasis is placed on the responsibilities of the nurse as a member of the health team and as a citizen in the community
Prerequisite: NUR 204.

NUR 204 Nursing Care in Physical and Mentall Illness III
Credit 10 (5-15)

This course is an introduction to the nursing needs of the patient with cardiovascular, nervous system, metabolic or digestive disorders.
Prerequisite: NUR 203.

NUR 205 Nursing Seminar **Credit 4 (4-0)**

This course is a second-year course which is divided into two parts.

Part One of this course deals with nursing during emergency and disaster situations and is designed to acquaint the student with her role as a citizen and as a nurse during emergencies and disasters. The Medical Self-Help Training Program developed by the Department of HEW and Department of Defense is presented as a portion of this study.

Part Two of this course deals with the functions and roles of each member of the health and nursing teams. Methods of assigning patients for care on the hospital unit are discussed. The student is made aware of her role as a team member and as a team leader.
Prerequisite: NUR 202.

NUR 206 Nursing Review **Credit 3 (3-0)**
A course presented in order to upgrade any possible deficiences that students may feel in any of the areas of nursing.
Prerequisite: NUR 204, NUR 205.

NUR 207 Nursing Problems **Credit 10 (4-18)**
Nursing 207 provides the opportunity to study in depth the nursing care of patients with health problems involving the eye, ear, mastoid, or integumentary system, and the patient experiencing a communicable infection.
Prerequisite: NUR 204.

NUR 1101 Basic Science **Credit 6 (3-6)**
This course is designed to give the beginning student an understanding of basic science principles and their relationships to practical nursing. This course includes study of the structure and functions of the human body, principles of foods and nutrition and selected effects of microbiology as related to nursing.
Prerequisite: None.

NUR 1102 Orientation to Vocational Relationships **Credit 2 (2-0)**
This course is designed to assist the student in understanding herself, her vocation and the individual needs of her patients. Emphasis is placed on the development of appreciations and attitudes which will assist the student in understanding her role as a potential worker in nursing, in establishing effective relationships with her co-workers and patients, and in establishing realistic goals for herself in her personal and vocational development.
Prerequisite: None.

NUR 1103 Introduction to Patient Care **Credit 8 (6-6)**
This course is planned to provide the opportunity for students to gain a knowledge of the principles which are basic to effective and safe nursing care. Emphasis is placed on the development of the essential skills for the performance of those nursing measures that normally are the responsibility of the Licensed Practical Nurse. Lecture and planned class laboratory experience are followed by related clinical experience.
Prerequisite: None.

NUR 1104 Basic Principles of Drug Administration **Credit 3 (3-0)**
The basic concepts of drug therapy and an appreciation of the responsibilities and the necessary limitations of the Licensed Practical Nurse in the administration of medication are emphasized.
Prerequisites: NUR 1103, or advisor approval.

NUR 1105 Care of Patients with Medical-Surgical Conditions I **Credit 7 (7-0)**
This course is designed to provide the student the opportunity to gain an understanding of the nursing needs of patients who have various medical-surgical conditions and to develop further understanding of the

common drugs and therapeutic measures of concern to the practical nurse. Lecture and class laboratory provide the background for selected clinical experiences.
Prerequisite: NUR 1103.

NUR 1106 Maternal and Child Care **Credit 6 (6-0)**
This course is designed to provide opportunities for students to acquire the knowledge, understanding and skill needed for rendering safe and effective nursing care to the maternity patient and newborn infant. Classroom instruction provides the background essential for planned clinical experience centered around analysis of nursing needs and formulation of a nursing care plan to meet individual patient needs.
Prerequisite: NUR 1105.

NUR 1107 Care of Patients with Medical-Surgical Conditions II **Credit 6 (6-0)**
A continuation of NUR 1105.
Prerequisite: NUR 1105.

NUR 1108 Care of Infants and Children **Credit 6 (6-0)**
This course is designed to provide opportunities for students to acquire the knowledge, understanding and skills needed for rendering safe and effective nursing care of infants and children. Classroom instruction provides the background essential for planned clinical experiences centered around analysis of nursing needs and formulation of a nursing care plan to meet individual patient needs.
Prerequisite: NUR 1107.

NUR 1109 Care of Patients with Medical-Surgical Conditions III **Credit 4 (4-0)**
This course is a continuation of NUR 1107. It is designed to prepare the student for participation in the care of seriously ill patients and for development in the care of selected patients. Emphasis is placed on the assisting role of the Licensed Practical Nurse. Classroom instruction provides the background for planned clinical experiences.
Prerequisite: NUR 1107.

NUR 1110 Vocational Relationships **Credit 2 (2-0)**
This course is designed to orient the student to her role as a licensed Practical Nurse. It includes the study of opportunities in practical nursing and the obligations and responsibilities of the Licensed Practical Nurse as a person, a worker and a citizen. Relationships with other members of the health team to more fully achieve the goals of nursing are emphasized throughout the course.
Prerequisite: NUR 1112.

NUR 1111 Clinical Experience **Credit 8 (0-24)**
Beginning experience in a general hospital under supervision of clinical teachers. Opportunities for practicing skills learned in laboratory practice with emphasis on basic care of ambulatory and mildly ill patients.

Practice in charting and making observations with beginning use of testing materials and instruments. Beginning development of concepts needed in caring for the elderly, chronically ill, patients hospitalized for diagnosis. Supervised experiences in administering oral and topical drugs.
Corequisites: NUR 1104, NUR 1105.

NUR 1112 Clinical Experience **Credit 8 (0-24)**
Further experience in the practice of nursing skills. Continued experiences in basic patient care in areas of medical-surgical nursing with emphasis on signs and symptoms, surgical nursing, team nursing, isolation techniques and practice. Continuation of supervised administration of oral medications.
Corequisites: NUR 1106 & 1107.

NUR 1113 Clinical Experience **Credit 8 (0-24)**
Experience in the practice of nursing skills in the care of the more seriously ill patient, children, new mothers. Practice in giving injections under the direct supervision of a clinical teacher. Experience in more complicated nursing treatments. Emphasis on assuming role of assistant to the Registered Nurse and doctor. Emphasis on use of judgment in more complicated nursing situations for larger groups of patients.
Corequisites: NUR 1108, 1109, 1110.

ORIENTATION

ORI 1100 Orientation to Vocational Education **Credit 2 (2-0)**
An introduction to the broad field of skilled vocational trades with discussion of the work of various skilled tradesmen and their roles in industry. The student will be introduced to the broad spectrum of career opportunities by studying specific job fields. Appropriate study and work habits; including carefulness, orderliness, and safety will be stressed. Students will be assigned individual study projects and participate in field trips and guest lectures.
Prerequisite: None.

PAINTING AND DECORATING

PAD 1124 Painting and Decorating **Credit 4 (3-3)**
Instruction is given in preparing interior surfaces and exterior areas for painting and finishing. Training is given in the operation of sanding and spray equipment as well as the application of stains, fillers, putties and paint by hand. Instruction is offered in protecting property, erection of scaffolds, application of various types of materials, plus the evaluation of quality of finishes.
Prerequisite: None.

PHYSICS

PHY 011 Physical Science I **Credit 3 (3-0)**
Introductory physical science and its application in fundamental concepts; measurement, fluids, machines, work, energy, and power will be introduced. Demonstrations by the instructor and selected laboratory experiments by the students will be performed.
Prerequisite: Advisor approval.

PHY 012 Introduction to Physics **Credit 3 (3-0)**
An elementary study of sound, light, color, heat, magnetism, static electricity, electric current, circuits, and electro-magnetism.
Prerequisite: Advisor approval.

PHY 100 Radiologic Physics I **Credit 3 (3-0)**
Introductory course in physics dealing with mathematics, equations, elementary physics principles and mechanics.
Prerequisite: None.

PHY 101 Technical Physics I **Credit 4 (3-2)**
This is the first of three technical physics courses taken by engineering technology students. Mathematical problem solving and laboratory work are essential parts of the course. Topics studied are: physical measurement, kinematics, dynamics, statics, energy, momentum, circular motion, rotation of rigid bodies, simple machines, elasticity, and fluids.
Prerequisite: MAT 101.

PHY 102 Technical Physics II **Credit 4 (3-2)**
This course is a continuation of PHY 101. Topics studied include: properties of matter, kinetic theory, heat and heat transfer, wave motion, light and sound. Problem solving and laboratory work are emphasized.
Prerequisite: PHY 101, MAT 102.

PHY 103 Technical Physics III **Credit 4 (3-2)**
This course is a continuation of PHY 102. Topics studied include: static electricity, direct and alternating current electricity, applied electricity, and magnetism. Individual laboratory work is emphasized.
Prerequisite: PHY 102.

PHY 104 Radiological Physics II **Credit 3 (3-0)**
This course is designed to teach Radiologic Technology students the concepts of physics that relate to the radiological field. Strong emphasis is placed on the principles and instrumentation used in AC and DC electricity. Special topics in mechanics, heat and light are also included.
Prerequisite: MAT 108, PHY 100.

PHY 105 Radiological Physics III **Credit 3 (3-0)**
This is a lecture course for Radiologic Technology students in the atomic physics principles that relate directly to the radiological equipment

currently in use. Topics stressed are those pertaining to X-Ray and Radium Physics. Mathematical analysis of problems is emphasized.
Prerequisite: PHY 104.

PHY 106 Technical Physics **Credit 4 (3-2)**
This is a one quarter physics course designed especially to meet the requirements of Fire Science Technology students. Topics discussed are basic structural analysis, static and dynamic fluid systems, applied heat energy and introduction to basic electricity.
Applied laboratory exercises and solutions of practical mathematical problems are stressed.
Prerequisite: None.

PHY 1101 Applied Science **Credit 4 (3-2)**
A study of basic electricity and its application. Topics studied include: static and direct current electricity, Ohm's Law applied, magnetism, DC sources, electrical measuring devices, generators, motors and an introduction to alternating current.
Corequisite: MAT 1101 or advisor approval.

PHY 1102 Applied Science **Credit 4 (3-2)**
This course includes the study of the following: precision measurement, properties of matter, heat and thermometry, basic machines and their applications.
Prerequisite: PHY 1101 or advisor approval.

PLUMBING

PLU 1115 Plumbing Installations **Credit 10 (5-15)**
The students are introduced to the tools, fittings, and equipment used by plumbers. They spend considerable time learning to handle these materials and tools correctly by: cutting pipe, threading, caulking, and sweating joints of the various kinds of pipe and tubing. Plumbing installations are made to provide practical applications. Heating devices, the storage and circulation of hot water will be studied. The student will receive practice in the installation of various plumbing fixtures and the proper use of traps. Field trips should be taken to study various types of installations.
Prerequisite: None.

POWER MECHANICS

PME 1100 Fundamentals of Automotive Repair **Credit 3 (2-3)**
Nomenclature, proper use and care, and application of: hand tools, measuring devices, fasteners, seals, gaskets, tubing, hose, wiring, jacks, lifts, pullers, presses, holding fixtures, cleaning equipment, and other general equipment used in servicing and repairing automobiles. Safety standards, housekeeping procedures, shop operation methods, and ac-

ceptable work habits will be stressed. Basic preventive maintenance work will be practiced.
Prerequisite: None. This course will be a prerequisite or co-requisite to any auto shop courses.

PME 1101A Internal Combustion Engine Fundamentals **Credit 4 (2-6)**
Construction and operational principles of internal combustion engines. Removal, disassembly, measuring, analyzing, and assembly of the various component parts of the automotive engine, lubricating, and cooling systems. Emphasis will be on replacing or installing of new or rebuilt parts. Basic instruction in demonstration form will be given in machining operations.
Prerequisite or Co-requisite: PME 1100.

PME 1101B Engine Overhaul **Credit 2 (1-3)**
Development of a detailed knowledge and skill in engine rebuilding and machining. Valve facing, valve seating, valve guide service, and cylinder wall refinishing processes will be covered. Fitting of refinished and new crankshafts, camshafts, and engine bearings will be practiced. Diagnosis and analysis of malfunctions will be emphasized.
Prerequisites: PME 1100, PME 1101A, PHY 1102.

PME 1102 Engine Electrical and Fuel Systems **Credit 7 (4-9)**
A thorough study of the electrical and fuel systems of the automobile. Battery cranking mechanism, generator, ignition, accessories and wiring; fuel pumps, carburetors, and fuel injectors. Characteristics of fuels, types of fuel systems, special tools, and testing equipment for the fuel and electrical system.
Prerequisite: PME 1100.

POLITICAL SCIENCE

POL 101 American National Government **Credit 5 (5-0)**
A study of government with emphasis on basic concepts, structure, powers, procedures and problems.
Prerequisite: None.

POL 102 State and Local Government **Credit 5 (5-0)**
This is a study of state and local governments with emphasis upon basic concepts, structures, powers, and procedures involved in carrying out their functions.
Prerequisite: None.

PSYCHOLOGY

PSY 011 — Public Relations **Credit 1 (1-0)**
A course in self development for those who plan to serve the public.
Prerequisite: Advisor approval.

PSY 101 General Psychology I **Credit 3 (3-0)**
An introduction to general topics in the science of behavior including sensation and perception, motivation, emotion, learning, personality, individual differences and intelligence — all as the basis for individual adjustment to the physical and social environment.
Prerequisite: None.

PSY 102 General Psychology II **Credit 3 (3-0)**
Continuation of PSY 101.
Prerequisite: PSY 101.

PSY 103 Child Growth and Development **Credit 3 (3-0)**
A study of the growth and development of the child, beginning with prenatal factors and including biological, emotional, social, and intellectual aspects.
Prerequisite: PSY 102.

PSY 104 Human Growth and Development I **Credit 3 (3-0)**
An introductory study of the developmental psychological and biological factors that affect the mother and child during prenatal and infant periods.
Prerequisite: None.

PSY 105 Human Growth and Development II **Credit 3 (3-0)**
A detailed study of the developmental sequence during the toddler, preschool, and primary level. Emphasis will be placed on the formation of behavior patterns and establishment of value systems and interests.
Prerequisite: PSY 104.

PSY 106 Human Growth and Development III **Credit 3 (3-0)**
A detailed study of the developmental sequence during middle childhood and adolescence, emphasis being placed on biological maturation, culture, idealism, and adulthood preparation.
Prerequisites: PSY 104, 105.

PSY 112 Personality Development for Women **Credit 3 (3-0)**
Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.
Prerequisite: None.

PSY 150 Interpersonal Relationships **Credit 3 (3-0)**
A framework for understanding the self, other people, and communications or transactions between people, including those manifesting deviant behavior. Each student will do a self-analysis and, if he wishes, set up a goal to accomplish for himself during the course. The primary focus of the course is personal growth with some attention given to communication between the student and his clients.
Prerequisite: None.

PSY 151 Applied Psychology in Human Relations **Credit 3 (3-0)**
A study of a theory of the interaction process. The course will focus on the development of skills of interaction which facilitate self-understanding on the client's part and a productive relationship between student and his client. These skills will be appropriate for crisis intervention. There will be opportunities to practice these skills through role playing.
Prerequisite: None.

PSY 201 Abnormal Psychology **Credit 5 (5-0)**
Study of abnormal mental phenomena in relation to normal life, including such topics as sensation, perception, thought, sleep, dreams, hypnosis, disassociation, role of defense mechanisms, psychoneurosis, and personality disorders.
Prerequisite: PSY 102.

PSY 202 Introduction to Exceptional Children **Credit 3 (3-0)**
Study of children with developmental variations requiring modification in activities. Consideration is given to recognition of problems, community resources, and appropriate activities for the child with exceptional deviations in personality or physical development.
Prerequisite: PSY 106.

PSY 203 Adolescent Psychology **Credit 3 (3-0)**
A study of the nature and source of the problems of adolescents in western culture; physical, emotional, social, intellectual, and personality development of adolescents.
Prerequisite: None.

PSY 206 Applied Psychology **Credit 3 (3-0)**
A study of the principles of psychology that will be of assistance in the understanding of inter-personal relations on the job. Motivation, feelings, and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
Prerequisite: None.

PSY 229 Abnormal Psychology **Credit 3 (3-0)**
A study of the symptoms, contributing factors, treatment and outcomes of the mentally ill and mentally defective as well as maladjusted, anti-social persons. Classifications and nomenclature of psychoneurosis, psychoses, and other illnesses are discussed.
Prerequisite: None.

PSY 1101 Human Relations **Credit 3 (3-0)**
A study of basic principles of human behavior. The problems of the in-

dividual are studied in relation to society, group membership, and relationships within the work situation.
Prerequisite: None.

PSY 1112 Personality Development for Women **Credit 3 (3-0)**
Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.
Prerequisite: None.

RADIOLOGIC

RDT 101 Radiologic Technology I **Credit 9 (4-16)**
The student is given an orientation to the field of radiologic technology. He is taught darkroom chemistry, film processing, the basic principles of radiographic exposure and is introduced to the appendicular and axial skeleton. The student is also presented the fundamentals of patient care in all aspects of nursing care as applied to radiography. He is instructed in ethics and professional conduct in the radiologic profession.
Prerequisite: None.

RDT 102 Radiologic Technology II **Credit 5 (4-3)**
The content covered in this quarter concerns the student's ability to prove through the use of phantoms, spinning tops, step wedges, different speed screens and energy output units, the laws and rules governing density, contrast, detail and distortion. The penetrability of the X-ray beam, faulty timing systems, anode heel effect, screen-density relationship and square law will be demonstrated. More advanced work in radiography of the skeleton will be emphasized. There will be regular "rap" sessions to discuss any problems or questions occurring particularly in the clinical area.
Prerequisite: RDT 101, PHY 100.

RDT 103 Radiologic Technology III **Credit 5 (4-3)**
A special and in-depth study of X-ray film, the terminology involved and ways and means of plotting its characteristics in terms of exposure and density, along with other sensitometric properties of the film will be discussed and demonstrated. The student will be introduced to the use of a densitometer in evaluating density levels on a radiograph. The use of portable X-ray equipment and/or equipment will be discussed. Radiography of the skeleton and viscera will be pursued.
Prerequisite: RDT 102.

RDT 111 Clinical Education **Credit 5 (0-16)**
Practical experience in a clinical setting including processing of radiographs, practice in ethical and attitudinal situations during patient contact, patient care and basic patient positioning for studies of upper and lower limbs, shoulder and pelvic girdles. The student will also apply

some of the simpler principles of radiographic exposure. There will be regular sessions of film critique.
Prerequisite: RDT 101.

RDT 112 Clinical Education **Credit 8 (0-24)**
Practical experience in a clinical setting. The student will continue to improve his basic skills in darkroom technique and patient positioning for routine studies of upper and lower limbs and the shoulder and pelvic girdles. He will practice the techniques for roentgenographic studies of the skull and spine. There will be regular sessions of film critique.
Prerequisite: RDT 111, RDT 102.

RDT 113 Clinical Education **Credit 13 (0-40)**
Practical experience in a clinical setting with emphasis on the preparation and use of contrast media, preparation of the patient for such studies and the performance of examinations of the digestive tract, biliary tract, and urinary tract using contrast media. The student will be working in fluoroscopy and will also make radiographs of the abdominal and thoracic viscera without the use of contrast media. Soft tissue radiography (exclusive of mammography) and location of foreign bodies will be touched upon.
Prerequisite: RDT 112, RDT 103.

RDT 114 Clinical Education **Credit 14 (0-40)**
The student will spend the entire summer quarter gaining clinical experience and developing skill in the techniques of diagnostic radiography. He will review all he has learned about film processing and developing, patient positioning and exposure factors. Practice will cover radiography of the skeleton, the thoracic and abdominal viscera, and examinations of the abdominal viscera using contrast media and fluoroscopy.
Prerequisite: RDT 113.

RDT 201 Topographic Anatomy **Credit 2 (2-0)**
This course reviews anatomy with emphasis upon landmarks and their relationship to the internal organs within the same anatomical region. The relationships of the internal organs in contrast to a radiograph of that area will be demonstrated.
Prerequisite: BIO 106.

RDT 204 Radiologic Technology IV **Credit 8 (7-3)**
The student will be introduced to practical regulations, monitoring methods and techniques for reducing exposure of patients and technologists. Studied will be image intensification, video tape and other recording devices used in the field of radiology. Anatomy and radiographic positioning of body systems will be reviewed. There will be sessions of film critique in which the students will make critical evaluations of their own films. The student will be introduced to the fundamentals of radioisotope technology. Combining technical and gram-

mar knowledge gained in previous quarters, the students will compose a paper pertaining to any topic related in some manner to radiology. This will be in conjunction with the paper done for ENG 103.
Prerequisite: RDT 103.

RDT 205 Radiologic Technology V **Credit 6 (5-3)**
The student will be introduced to the fundamentals of radiation therapy techniques and their use in the treatment of disease. The student will study equipment used to perform special procedures. Anatomy and positioning to these procedures will be studied. There will be a comprehensive review of all aspects of radiologic technology studied to this point.
Prerequisite: RDT 204.

RDT 206 Radiologic Technology VI **Credit 8 (8-0)**
The student will gain knowledge of the equipment in the X-ray department in order to be able to trouble-shoot and carry out light maintenance. The student will be allowed to research any area involving X-ray technology. There will be a series of review questions with discussion in each area of Radiologic Technology.
Prerequisite: RDT 205.

RDT 215 Clinical Education **Credit 8 (0-24)**
This will be a continuation of practical experience in a clinical setting. The student will demonstrate his ability to operate a radiographic room unassisted and evaluate his own radiographs. The student will begin a rotation through the nuclear medicine laboratory.
Prerequisite: RDT 113.

RDT 216 Clinical Education **Credit 8 (0-24)**
This will be a continuation of practical experience in a clinical setting. The student will evaluate his own radiograph and if necessary revise his techniques. The student's rotations, evaluations and number of procedures performed up to this point will be evaluated and the student will be placed in that area which he or she needs the most experience. The student will also begin a rotation through special procedures.
Prerequisite: RDT 215, RDT 204.

RDT 217 Clinical Education **Credit 13 (0-40)**
This will be a continuation of practical experience in all areas of Radiologic Technology. The student during this quarter will operate by themselves a flourisque and diagnostic radiographic room unassisted.
Prerequisite: RDT 216.

RDT 218 Clinical Education **Credit 10 (0-32)**
The student will spend the entire quarter gaining and perfecting clinical experience in all he has learned about film processing, patient positioning and exposure factors.
Prerequisite: RDT 205, RDT 217.

SAFETY

SAF 010 Introduction to Basic Plant Safety **Credit 1 (1-0)**
This course will provide the student with an understanding of basic plant safety. Some of the topics discussed are work area safety, tool and equipment safety, electrical safety, fire prevention, and understanding OSHA (the Occupational Safety and Health Act of 1970).
Prerequisite: Advisor Approval.

SAF 102 Introduction to Industrial Safety **Credit 3 (3-0)**
An introductory course designed to familiarize the student with the Occupational Safety and Health field. The student gains insight into the history and philosophies of the safety movement and the roles of safety and health personnel and ancillary safety organizations. Considerable emphasis is placed upon the Occupational Safety and Health Act of 1970 and its scope and ramifications within the safety profession. Students are familiarized with OSHA standards (including referenced ANSI and NFPA standards) and with accident and injury reporting procedures (both OSHA and ANSI methods).
Prerequisite: None.

SAF 201 Principles of Industrial Safety I **Credit 4 (3-2)**
An examination of physical hazards in the work environment and methods of control. The following topics are included: industrial buildings and plant layout; walking and working surfaces; industrial sanitation and personnel facilities; materials handling and storage; powered industrial trucks; hoisting apparatus and conveyors; welding and cutting; and hand and portable power tools. Laboratory sessions are structured to familiarize the student with standards and regulations related to each topic.
Prerequisite: SAF 102.

SAF 202 Principles of Industrial Safety II **Credit 4 (3-2)**
An examination of physical hazards in the work environment and methods of control. The following topics are included: personal protective equipment; elevators and plant railways; general requirements for machinery and machine guarding; machine tools and woodworking machinery; cold forming of metals; hot working of metals; and electrical hazards. Laboratory sessions are structured to familiarize the student with standards and regulations related to each topic.
Prerequisite: SAF 102.

SAF 205 The Nature and Effects of Occupational Health Hazards (Industrial Hygiene I) **Credit 4 (3-2)**
This course is designed to familiarize the student with the problem of damage to the human organism which results from exposure to various chemical and physical agents in the workplace. Development of the student's ability to recognize occupational health hazards is emphasized through detailed consideration of specific health hazards and familiarization with a variety of industrial processes and their associated

health stresses. The stresses of aerosol and toxic gas and vapor inhalation, skin contact with chemical and physical agents, excessive noise, hot and cold environments, and exposure to electromagnetic radiation are defined and their effects upon the human body discussed. Basic concepts of industrial toxicology and relationships to the development and application of occupational health standards are presented. Laboratory sessions are designed to familiarize the student with the industrial hygiene literature and the use of occupational health standards.
Prerequisite: CHM 231.

SAF 206 Measurement and Evaluation of Occupational Health Hazards (Industrial Hygiene II) Credit 4 (3-2)
A study of the methods and techniques of sampling and analysis utilized by the industrial hygienist in evaluating occupational health hazards. Emphasis is placed upon instrument selection and calibration; sampling limitations and analytical errors; and report preparation. Statistical concepts related to sampling and data evaluation are presented. Laboratory sessions provide an opportunity for the student to utilize a wide variety of sampling and analytical instruments.
Prerequisite: SAF 205.

SAF 207 Control of Industrial Health Hazards (Industrial Hygiene III) Credit 4 (3-2)
This course stresses the importance of engineering control methods for reducing or eliminating the occurrence of industrial disease. Topics of consideration include industrial ventilation, respirator design and application, hearing conservation in industry, heat control, methods for preventing dermatoses, control of ionizing radiation, administrative control of occupational health hazards, and the comprehensive occupational health program. The student has an opportunity to apply basic engineering concepts to the design of ventilation systems and acoustical enclosures. Laboratory sessions are used for problem solving and practical demonstration of engineering principles related to ventilation, sound, and radiation.
Prerequisite: SAF 206.

SAF 208 Supervisory Control For Accidents Credit 3 (3-0)
A study of the supervisor's role in accident prevention. Includes an analysis of the nature and causes of accidents and instruction in fundamental supervisory control measures, including safety training, job safety analysis, accident investigation, safety inspection, safety tipping, and planned safety observations. Students will prepare and present safety training programs. Methods of employee motivation will be discussed with emphasis on problem employees.
Prerequisite: None.

SAF 210 Safety Management Credit 3 (3-0)
A study of fundamental management principles applicable to industrial safety and health program management. The following topics are included: modern concept of total loss control; management's direction of

safety; assignment of responsibility and fixation of accountability for loss control performance; development of safety policy; measurement of loss control performance; accident cost analysis; and motivation of top-level management.
Prerequisite: SAF 208.

SAF 211 Construction Safety **Credit 4 (3-3)**
A study of construction industry operations and hazard control. A wide variety of hazards associated with the construction industry are considered with particular emphasis upon the following operations: excavation and trenching; traffic control; concrete construction and steel erection; cranes, hoists, and derricks; rigging (ropes, chains, and slings); and explosives. Laboratory sessions are structured to familiarize the student with the OSHA Construction Standards (29 CFR 1926), including referenced standards.
Prerequisite: None.

SAF 212 Special Problems in Industrial Safety **Credit 3 (1-6)**
This course provides for individual student research in special industrial safety and/or health problems. All elements of industrial hygiene and sound safety practices will be utilized in developing solutions to problems. Chosen by the student or assigned by the instuctor.
Prerequisites: SAF 201, 202, 206.

SCIENCE

SCI 109 Science for Young Children **Credit 3 (3-0)**
Study of scientific facts, concepts, and phenomena that are of interest to young children. Laboratory experiences provide opportunities to carry out simple experiments in which young children could participate.
Prerequisite: None.

SOCIAL SCIENCE

SSC 011 Personal Understanding **Credit 2 (2-0)**
Use of reading, audio visual and other material to enable the student to realize that proper attitude and good habits are his greatest asset, and that poor attitude and bad habits are his greatest liability.
Prerequisite: Advisor approval.

SSC 012 Famous Negro Americans **Credit 3 (3-0)**
A course which relates some of the worthwhile contributions that have been made by Negro Americans.
Prerequisite: Advisor approval.

SSC 013 Great Negroes Past and Present **Credit 3 (3-0)**
A course designed to acquaint people of all ethnic backgrounds with many important achievements of the American Negro.
Prerequisite: Advisor approval.

SSC 111 Social Problems **Credit 3 (3-0)**
The student will be prepared to deal with social problems as they exist in our society today. Emphasis will be placed upon social problems that exist within a correctional facility.
Prerequisite: None.

SSC 201 Social Science I **Credit 3 (3-0)**
An integrated course in the social sciences, drawing from the fields of anthropology, psychology, history, and sociology.
Prerequisite: None.

SSC 202 Social Science II **Credit 3 (3-0)**
A further study of social sciences with emphasis on economics, political science, and social problems as they relate to the individual.
Prerequisite: SSC 201.

SSC 203 Marriage & The Family **Credit 3 (3-0)**
A course designed to help young people gain perspective through an understanding of themselves and of others. The study of the origin and development of the family as a social institution with emphasis on courtship, marriage, parenthood, family relationships, and problems of the contemporary American family.
Prerequisite: None.

SSC 204 Social Science (Law Enforcement) **Credit 5 (5-0)**
A study of the major social problems of modern society, including family disorganization, minority groups and problems associated with industrial and urban development.
Prerequisite: None.

SSC 205 American Institutions **Credit 3 (3-0)**
A study of the effect of American social, economic, and political institutions upon the individual as a citizen and as a worker. The course dwells upon current local, national, and global problems viewed in the light of our political and economic heritage.
Prerequisite: None.

TEXTILES

TEX 101 Fundamentals of Textiles **Credit 3 (3-0)**
An introduction of textiles, including the history of the industry, description of textile materials and products and their utilization. Presentation of the basic manufacturing systems, materials flow, terminology and calculations.
Prerequisite: None.

TEX 201 Fiber Science **Credit 6 (5-2)**
This course emphasizes: the chemical constitution and properties of fiber forming polymers; theories of fiber structure; the relationship between the molecular structure of linear polymers and physical properties of

natural and man-made fibers; the principles and methods for producing man-made fibers; the chemical behavior of natural and man-made fibers.
Prerequisite: TEX 101, CHM 111, MAT 101.

TEX 202 Yarn Forming Systems **Credit 6 (5-2)**
A study of the principles of staple and filament yarn systems and structures. The influence of the manufacturing systems and the input materials on product characteristics is established.
Prerequisite: TEX 101, MAT 101.

TEX 203 Fabric Forming-Weaving **Credit 4 (3-2)**
A study of fabric forming by the weaving process. Emphasis is on fabric construction and geometry. Structures of fabrics and resulting properties are related to raw materials and product performance.
Prerequisite: TEX 202.

TEX 204 Fabric Forming-Knitting and Nonconventional Processes **Credit 4 (3-2)**
A study of fabric forming by the knitting and nonconventional processes. Emphasis is on fabric construction and geometry. Structures of fabrics and resulting properties are related to raw materials and product performance.
Prerequisite: TEX 202.

TEX 205 Dyeing and Finishing **Credit 6 (5-2)**
A comprehensive course designed to familiarize the student with the basic principles involved and the procedures used for the preparation, dyeing, printing and finishing of natural and man-made fibers. Some emphasis is placed upon the chemical nature of dyes and fastness properties, and the chemical nature of finishes used to impart specific end-use properties.
Prerequisite: TEX 201.

WELDING

WLD 200 Welding Techniques and Applications **Credit 3 (2-3)**
The study of the fundamental principles and applications of welding. Composition of welds, stress in welds, types of welds, types of welding symbols, and their application in fabrication. Fundamental principles, techniques, and applications of oxyacetylene welding and cutting, and arc welding.
Prerequisite: None.

WLD 1101 Basic Welding **Credit 1 (0-3)**
Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding; bronze welding, silversoldering, and flame-cutting methods applicable to mechanical repair work.
Prerequisite: None.

WLD 1102 Welding Processes **Credit 4 (2-4)**
The student will be introduced to Welding Processes including oxyacetylene welding and cutting, arc welding, gas shielded arc welding. Also, the student will be given technical information about welding power sources, vocabulary, nomenclature of equipment, identification of metals, and the selection of welding supplies. Safety will be stressed throughout the course.
Prerequisite: WLD 1101.

WLD 1120 Oxyacetylene Welding and Cutting **Credit 7 (3-12)**
Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of units. Welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead position, brazing, hard and soft soldering. Safety procedures are stressed throughout the program of instruction in the use of tools and equipment. Students perform mechanical testing and inspection to determine quality of the welds.
Prerequisite: None.

WLD 1121 Arc Welding **Credit 7 (3-12)**
The operation of AC transformers and DC motor generator arc welding sets. Studies are made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt and fillet welds in all positions, welds are tested in order that the student may detect his weaknesses in welding. Safety procedures are emphasized throughout the course in the use of tools and equipment.
Prerequisite: WLD 1120 or advisor approval.

WLD 1122 Industrial Cooperative **Credit 4 (2-16)**
Students are placed on welding jobs with a cooperative agreement between student, employer, and institution to further develop skills through actual practice in industrial processes and techniques.
Prerequisite: Fourth quarter standing and approval of instructor.

WLD 1123 Gas Shielded Arc Welding **Credit 3 (2-4)**
Introduction and practical operations in the use of inert-gas-shield arc welding. A study will be made of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as: principles of operation, automatic welding and the various types of gases used.
Prerequisite: WLD 1121.

WLD 1124 Pipe Welding **Credit 7 (3-12)**
Designed to provide practice in the welding of pressure piping in the horizontal, vertical, and horizontal fixed position using shielded metal arc welding processes according to Section VIII and IX of the ASME Code.
Prerequisite: WLD 1121.

WLD 1125 Gas/Arc Cutting and Welding **Credit 10 (4-18)**
Introduction to the history of oxyacetylene and arc welding, the principles of welding and cutting, nomenclature of the equipment, and assembly of units. Gas welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, overhead and vertical positions, brazing, hard and soft soldering. The operation of AC transformers and DC motor generator arc welding sets. After the student is capable of running beads, butt and fillet welds in all positions, welds are tested in order that the student may detect his weaknesses in welding. Safety procedures are emphasized throughout the course in the use of tools and equipment.
Prerequisite: None.

WLD 1128 Welding Power Sources **Credit 3 (3-0)**
A study will be made of the operation and maintenance of AC and DC welding power sources. The student will be introduced to key circuits used in AC and DC welding machines along with basic concepts of the operation of transformers, rectifiers, and high frequency units.
Prerequisite: PHY 1101.

FIP 225 Fire Protection Law **Credit 3 (3-0)**
A study of law in relation to fire protection. Torts, terms and contracts studied by case method. Liability of fire protection personnel when making inspections, recommendations, fighting fires, and other tasks. Pertinent laws, ordinances, and codes and the responsibilities and powers of the individual or organization concerning enforcement.
Prerequisite: FIP 106.

CONTINUING EDUCATION

- Training Services to Business and Industry
- New and Expanding Industrial Training
- Business and Industry Seminars, Conferences and Workshops
- Distributing and Marketing
- Fire Service Training
- Management Development Program
- Health Occupations Extension
- Law Enforcement Training
- Vocational-Technical Extension
- High School Equivalency Program
- High School Education for Adults
- Academic-Vocational Extension
- Education and Training in Correctional Institutions
- Adult Basic Education Program
- Human Resource Development

ROWAN TECHNICAL INSTITUTE
Post Office Box 1595
Salisbury, North Carolina 28144
Telephone 637-0760

AN INTRODUCTION TO CONTINUING EDUCATION

Continuing education today is a mixture of many forces and a collection of many items, antique as well as modern. Its content can run from literature to literacy, from community action to philosophical reflection, from the study of external forces that drive society to the study of internal forces that drive individuals. Continuing education can as easily include classes in furniture refinishing and navigation and speed reading as it can classes in effective speaking or elementary English or community orchestra or intercultural relations or typing. It can take in science, political as well as natural. It can examine the world, and the test tube. Its aims may be better jobs, increased understanding, more civic participation, better health, or wiser consumer buying. The "education" in continuing education includes the basic subjects normally taught in elementary and high school, reading, writing and calculus as well as art, or conversational Spanish. Also included are the advanced technology needed today for adult vocations and the recreational and personal development instruction needed by all kinds of individuals, whether jobless manual laborers or overworked executives.

CONTINUING EDUCATION CENTERS

ROWAN TECHNICAL INSTITUTE
I-85 at Klumac Rd.
Box 1595, Salisbury, N. C. 28144
Phone 637-0760

KANNAPOLIS CENTER
113½ W 1st St.
Kannapolis, N.C. 28081
Phone 933-2712

CONCORD CENTER
660 Highway 29 North
Concord, N.C. 28025
Phone 782-6913

CONTINUING EDUCATION PROGRAMS

GENERAL INFORMATION

Extension classes of introductive and upgrading vocational and technical occupational training are offered both on campus and other locations in the area served by Rowan Technical Institute. These courses are designed to fulfill specific needs for further development of employee skills on the job. Most courses require a $5.00 fee, however, some must be self-supporting which may require a higher fee.

ADMISSION

Any adult is eligible to attend extension classes offered by Rowan Technical Institute providing that the person has reached his 18th birthday and his original high school class has graduated.

The student may be requested to notify Rowan Technical Institute prior to the first class meeting to pre-register or merely to attend the first class session.

Subject matter and available space often dictate admission procedure.

TRAINING SERVICES TO BUSINESS AND INDUSTRY

The occupational extension classes conducted by Rowan Technical Institute are developed to fit the needs of industry and to provide training desired by employed individuals of the area. Because of the flexibility of these programs, courses are tailored to specific group needs. New programs are initiated as the need is indicated. Some examples of courses offered are:

Blueprint Reading (for all trades)
Mathematics (for all trades)
Basic Chemistry for Textile Dyeing
Automotive Electrical Systems
Industrial Air Conditioning Systems
Slide Rule
Basic Electricity
Electronics
Pipe Welding
Critical Path Method

NEW AND EXPANDING INDUSTRY TRAINING

One of the basic objectives of Rowan Technical Institute is to stimulate the creation of more challenging and rewarding jobs for the citizens of our area by providing a customized training service to new and expanding industries.

Subject to minimal limitations, this institution, in cooperation with the Industrial Services Division, Department of Community Colleges, will design and administer a special program for training the production manpower required by any new or expanding industry creating new employment opportunities in North Carolina.

The purpose of this service is to help a new or expanding industry meet its immediate manpower needs and to encourage each industry to develop a long-range training program of its own to satisfy its continuing replacement and retraining needs.

BUSINESS AND INDUSTRY SEMINARS, CONFERENCES AND WORKSHOPS

Rowan Technical Institute is interested in hosting local and state groups in conferences, seminars and workshops. The centrally located campus is ideal for one day or week long conferences. Lodging facilities and restaurants are located nearby for out-of-town participants.

DISTRIBUTING AND MARKETING

In all areas of the distribution and marketing system in the free enterprise system courses are available in:

Bad Check Detection
Cash Register Operation
Customer Service
Merchants Crime Loss Prevention
Purchasing
Salesmanship and Organization
Advanced Principles of Bank Operation
Shoplifting Prevention
Showroom and Retail Planning
Real Estate Sales
Life Underwriting and Adjustors Training
Property Insurance
Stocks and Bonds

HOSPITALITY EDUCATION

The hospitality industry is one of the largest in North Carolina and affords many employment opportunities to the people of this state.

Training is provided for personnel in the motel, restaurant, service station, hospital and retail business. Some of the subject areas covered are:

Food and Beverage Management
Food and Beverage Purchasing
Supervisory Housekeeping
Service Station Attendant Training
Waiter-Waitress Training
Human Relations
Sales Promotion
Hotel-Motel Law
Custodial Training
Travel Information
Equipment Use and Care

FIRE SERVICE TRAINING

The growing Piedmont area of North Carolina requires expansion of fire fighting units and continuous upgrading of fire fighting personnel. The Fire Service Training Program provides training sessions in local departments.

	Minimum hours
Salvage and Overhaul Procedures	9
Forcible Entry	9
Rope Practices	6
Portable Fire Extinguishers	9
Ladder Practices	9
Hose Practices	12
Fire Stream Practices	12
Fire Apparatus Practices	12
Ventilation	9
Rescue Practices	12
Protective Breathing Equipment	9
Firefighting Procedures	12
	120

In addition to the standard units of training the following specialized courses are offered.

- Arson Detection
- Fire Brigade Training For Industry
- First Aid for Firemen
- Home Fire Safety
- Hospital Fire Safety
- Officer Training
- School Bus Evacuation

MANAGEMENT DEVELOPMENT PROGRAM

The Management Development Program is designed to upgrade the supervisory and mid-management personnel in business and industry. Classes are scheduled in accordance with the needs of industry. Qualified instructors are provided without charge to the employee.

Classes available are:

- Principles of Supervision
- Job Relations Training
- Science of Human Relations
- Art of Motivating People
- Economics in Business and Industry
- Effective Communications
- Effective Writing
- Effective Speaking
- Speed Reading
- Work Measurement
- Job Methods
- Transportation and Traffic Management
- Labor Laws for Supervisors
- Conference Leadership Training
- Instructor Training
- Creative Thinking
- Industrial Safety and Accident Prevention
- Industrial First Aid
- Employee Evaluation and Interviewing
- Job Analysis Training
- Management Primer
- Job Instruction Training
- Supervision in Hospitals
- Motion and Time Study
- Principles of Business and Industrial Management
- Pre-Supervisory Training

HEALTH OCCUPATIONS EXTENSION

Health Occupation Continuing Education Programs are designed to provide training and up-date and up-grade health occupation personnel who provide services to persons with health problems.

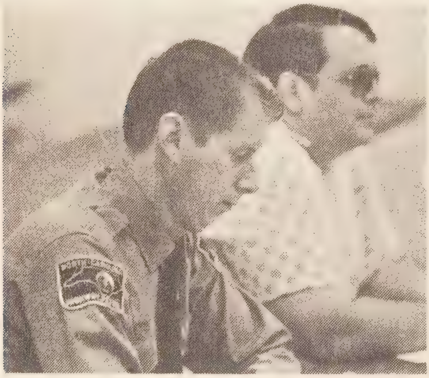
An effort is made to provide programs for all levels of health occupation personnel; and to promote improved delivery of health care to the citizens of Rowan and surrounding counties.

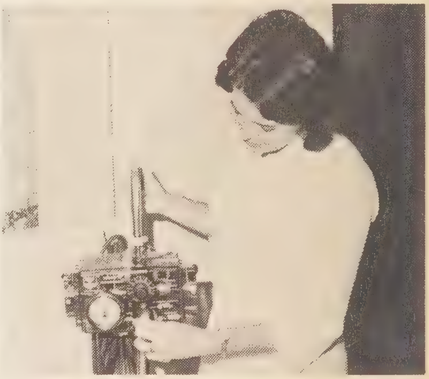
Rowan Technical Institute aspires to provide leadership in promoting inter-agency cooperation in fostering continued professional development of health occupation personnel.

AMBULANCE ATTENDANT

Rowan Technical Institute offers the ambulance attendant course for the training of ambulance drivers and attendants. The initial program embraces 24 hours of instruction, eight hours of which is taught by a medical doctor.

AREAS OF STUDY	Hours
The ambulance attendant as a member of the medical team	2
Care of patients with respiratory interference	4
Management of patients with hemorrhage shock and common types of injuries	4
Care of Patients with head and/or back injuries	3
Fractures and dislocations	3
Management of patients with common medical conditions	3
Management of the obstetrical patient	2
The emotionally disturbed patient	2
External cardiac compression	3
Burns	3





LAW ENFORCEMENT TRAINING

Rowan Technical Institute offers many courses in Law Enforcement Training. The goal is to promote and provide adequate training and education courses in legal and technological fields that will keep law enforcement officers abreast of advancements in law enforcement techniques.

VOCATIONAL — TECHNICAL EXTENSION CLASSES

W-210 *Hospitality*

HOS 3001—*Basic Quantity Cooking*

A course dealing with principles of interpreting menus, menu terms, recipes, measurements and other data relative to the cooking profession. Skill in selection, preparation, and serving of foods, also purchasing food, and keeping records of supplies and expenses. To capitalize on native food handling talent to insure a profitable profession.

HOS 3005—*Equipment Use and Care*

A course for all school food service personnel in general care and safety in the use of equipment; specific use and care of large and small pieces of food service equipment; inventory and maintenance records.

HOS 3019—*Maid Training*

This course stresses the importance of the maid to the overall operation of a hotel or motel. Much emphasis is placed on techniques for doing the job more quickly, more effectively and with less effort.

HOS 3023—*Nutrition and Menu Planning*

A course for all school food service personnel in depth of the role in nutrition of protein, fats, carbohydrates, minerals, and vitamins; factors in developing good food habits; dietary needs of children and youth; advanced work in planning and evaluating menus.

HOS 3024—*Overview of School Food Service*

The prerequisite course for all school food service personnel. A basic orientation course presenting the history of school feeding, characteristics of a good program, personnel and human relations, nutrition and menu planning, organization and management, purchasing, storing, preparation and serving of food; sanitation and safety.

HOS 3032—*Procurement*

Course designed for directors of school food service. Covers such items as: organization, menu planning, marketing expertise, nutrition, buying, scheduling, training, sanitation, inventory, banking, bookkeeping, maintenance, public relations, art work and decorations, equipment, and evaluation.

HOS 3026—*Quantity Food Production Management*

A course for all school food service management personnel with experience in methods of quantity food preparation which retain nutritive values; use of standardized recipes; use of weights and measures; use and care of equipment; timing; selection; preparation; and service of foods for the school lunch.

W-330—*Ambulance Attendant*

EMT 2001—*Ambulance Attendant*

Designed to develop understanding of and appreciation for the role of the ambulance attendant in the care and transportation of the sick and injured. Classroom discussions include principles related to administering emergency aid to victims in selected situations, to safe transportation of the sick or injured, and to safe operation of the ambulance. Student experiences include supervised practice in applying splints, in using resuscitation techniques, in applying dressing, and in positioning and transporting victims with a variety of conditions.

W-983—*Law Enforcement*

PSC 3610—*Chemical Tests for Alcohol Operator's School*

Studies covered in this course are mathematics and metric system; scientific concepts; pharmacology and physiological effects of alcohol; background and history of chemical testing; theory of breath test instruments; maintenance of breath test instruments; simulated courtroom situation; introduction to supervision of chemical test programs.

PSC 3620—*Chemical Tests for Alcohol Retraining School*

Continuation and expansion of PSC 3610

PSC 3630—*Chemical Tests for Alcohol Recertification School*

Continuation and expansion of PSC 3620

W-979—*Management Development Program*

MDP 3001—*Art of Motivating People*

Designed to show the importance of production. Emphasis is placed on specific problems in the area of motivation. A further value derived from this course would be to provide self-evaluation for those attempting to stimulate others. It is recommended for all managers who supervise hourly or incentive employees.

MDP 3002—*Conference Leadership Training*

Designed to aid the supervisor when presiding over groups — large or small — through sessions in group dynamics. Each participant is given several opportunities to serve in the role of a conference leader. Because much attention is given to individual participation by members, a limited enrollment is encouraged for this course.

MDP 3004—*Creative Thinking*

The aim of this course is to improve attitudes and thinking abilities of supervisors, to develop a strong motivation to utilize one's creative potential, to develop a greater curiosity in problem solving, and to gain open-mindedness toward ideas of others. Special emphasis is placed on individual and group brainstorming through the creative problem solving process. This course is recommended for all levels of management.

MDP 3005—*Economics in Business and Industry*

Training in economics gives the supervisor a better understanding of the AMERICAN FREE ENTERPRISE SYSTEM and how it operates. Included in this course are: the five basic principles of capitalism, the function of government and its responsibility to the people, the laws of supply and demand, wages and productivity, and most important, the profit motive. Excellent charts accompany this course and a considerable amount of time is devoted to group discussion.

MDP 3006—*Communications for Managers*

Emphasis is placed on clear and forceful oral, written, and implied communication. It will provide supervisors with an opportunity to improve their effectiveness in day-to-day communications with employees through face-to-face contacts. The course is conducted on an informal discussion basis and a limited enrollment is advised for effective group participation. Since communications represent the most vital link in management efficiency, this course is recommended for all levels of supervision.

MDP 3007—*Effective Speaking*

Course encompasses the theory and practice in the art of self-expression. A step-by-step guide is provided for supervisors to follow in helping them to overcome fear and self-consciousness when addressing a group. Sentence structure and vocabulary are explained as a basis for effective speech. Each participant is given opportunities to address the group after which he is constructively criticized much in the same manner used in the Toastmaster's Club.

MDP 3008—*Effective Writing*

Designed to help foremen and supervisors improve their writing skills in reports, letters and memoranda which are so necessary in daily operation. Fundamentals of sentence structure will be reviewed; elements of clear, forceful writing will be emphasized. Attention will be given to the individual needs of participants. Participation is the hallmark of this course; therefore, enrollment should be limited for best results: Mid-management and line supervisors should greatly benefit from this course.

MDP 3009—*Industrial First Aid*

Panic, indecision, and ignorance of sound first aid principles have resulted in death or permanent disability to injured people. A primary responsibility of the supervisor is to safeguard the health andwell-being of his employees. This course is designed to give the basics of first aid treatment techniques to supervisors who will be confronted with injuries from accidents likely to occur in the work area. Also covered is factual information for the temporary treatment of sudden illnesses, attacks, and seizures on the job. Recommended for all levels of management, subsupervisors, and other key personnel.

MDP 3010—*Industrial Safety and Accident Prevention*

This course offers the supervisor a systematic approach to a better understanding and scope of safety and accident prevention problems. Attention is given to preventive safety measures and understanding the causes of accidents and injuries. A portion of this course will be devoted to proper maintenance and housekeeping that contribute greatly to proper safety conditions and well-being of employees.

MDP 3011—*Instructor Training*

This course consists of twelve units of instruction to be covered in approximately fifteen (15) clock hours. It has two basic objectives. First, this course provides the future supervisor instructor with an approved method of instruction based on the basic principles of learning, which will enable him to teach others the related technology or manipulative skills of his trade. Secondly, this course is offered to build a corps of qualified, trained instructors for trade, public service, and industrial occupations in the adult education field.

MDP 3014—*Job Relations Training*

This course is concerned with the fundamentals of human relations. The course though updated several times, is one of three original courses offered to supervisors. It is, perhaps, the most popular and meaningful of all MDP courses. Like the Articles of War are to the military, this course is repeated to industrial supervisors as often as every two years in many organizations. It is highly recommended for all levels of management. The course content is divided into five distinct sections. They are: the foundation for good human relations; basis for decisions; the 4-step problem solving methods; taking preventive action; and the importance of getting the facts.

MDP 3015—*Labor Laws for Supervisors*

Course covers items of interest concerning labor laws as the supervisor would be likely to come into contact with them. Includes social security, Workmen's Compensation Act, unlawful employment practices (Civil Rights Act of 1964), North Carolina Maximum Hour Law, North Carolina Minimum Wage Law, Child Labor Laws, how rates are set, and the major provisions of the Taft-Hartley Act.

MDP 3016—*Management Primer*

The Management Primer series is designed primarily for supervisors in midmanagement positions. It is meant as an introduction to managerial thinking. It will make a contribution toward better performance by helping participants see their problems more clearly in terms of accepted management practices. It will, consequently, motivate continued analysis, study, and managerial self-improvement. This course is not recommended for non-supervisory personnel.

MDP 3018—*Principles of Supervision*

This course is divided into seven distinct parts, each representing six (6) to eight (8) clock hours in length. The participant may take the total course consecutively or any part(s) he selects. The parts to be covered are: Fundamentals of Supervision, Relationships on the Job, Communications, How to Train Employees, Performance and Job Evaluation, Job Management, Work Improvement.

MDP 3019—*Human Relations in Industry*

This course is designed to relate the development of the science of humanics. Emphasis is given to the following topics: Machines and the Human Element, The Personal Needs that Stimulate Behavior, Leadership and Supervision, Factors Influencing Attitudes, The Foundation of Business.

MDP 3020—*Speed Reading*

This course is composed of a series of sessions in which the tachistoscopic method of flashing forms on a screen — digits, words, phrases, and sentences — is used. Objectives of the course will broaden the span of perception and recognition, and increase speed and comprehension in reading for those in business and industry whose jobs require much reading. The course is originally designed to run twenty (20) clock hours; however, it can be extended for those desiring advanced training.

MDP 3023—*Work Measurement*

The work measurement course is designed to acquaint the supervisor with the purposes and uses of time and motion studies. It is especially helpful in supplying the supervisor with the information needed to deal with the problems and questions with which he is constantly faced in time and motion practices. Areas of discussion include: production standards, wage rates, job standards, incentives, base rates, and various employee ratings.

W-982—*Firemanship*

FIP 3004—*Arson Detection*

The purpose of this course is to provide instruction for firemen in how to recognize arson and unlawful burnings, preserve and present evidence, become familiar with the laws concerning these crimes, and become aware that arson detection is the responsibility of the fireman. This course is *not* intended to prepare firemen to conduct investigations of arson and other unlawful acts. Instructors should be imbued with the special knowledge and abilities required to adequately teach arson detection. Fire Service Training Area Consultants are available for consultation in the selection of instructors as well as for consultation in all matters pertaining to this course.

FIP 3005—*Civil Disorder*

The purpose of this course is to promote among fire personnel a sense of responsibility to acquire knowledge and develop the skills needed for the safe and orderly handling of civil disorders. To develop understanding of safety principles necessary for self-protection. To develop knowledge of manpower and equipment distribution and control. To promote a well functioning system of communication between all agencies and personnel normally involved in such incidents. To develop knowledge and skills of firefighting tactics necessary to combat fires in strife-torn areas. To develop knowledge of types of people who may be involved in mob action. To promote the importance of maintaining the fireman's protective image.

FIP 3007—*Fire Apparatus Practices*

Present day fire apparatus has combined necessary usefulness with available automotive power to produce a mobile machine that meets the requirements of fire service. Today's fire apparatus requires only one pump operator, specially trained in mechanical principles, water flow, safety, and operating practices. This course serves as a guide for the proper care and operating practices of motorized fire apparatus. This course covers the following: Fire apparatus requirements, special mechanical features and functional equipment (pumpers and aerial ladders), caring for fire apparatus, operation of pumpers.

FIP 3008—*Fire Brigade Training*

One means of avoiding major industrial plant fire losses in North Carolina is for each plant to maintain a well-trained fire brigade. Each brigade should be prepared to meet the specific needs of the plant which it serves. It is not the intention that an industrial plant fire brigade take the place of the local fire department. However, it is the responsibility of the brigade to take action during the first crucial minutes of a fire. These initial steps can help prevent costly fires.

FIP 3009—*Firefighting Procedures*

This course is to encourage pre-fire planning, to discuss ways of applying a plan to a course of action, and to provide a system by which fighting procedures may be selected, applied, and improved upon to meet the needs of a local situation. This course covers those things that a fire officer and/or firefighter should consider and do during his response to a fire, his size-up of a situation, his decision, and his plan of operation. The scope further includes those operations that may or may not be needed at every fire occurrence such as rescue, exposure protection, ventilation, extinguishment, salvage, and overhaul.

FIP 3010—*Fire Stream Practices*

This course provides information on efficient service of pumps, hose, and nozzles. It is important that fire officers and firefighters have sufficient knowledge and understanding of the flows of water through various sizes of hose and nozzles and the pressures required so that they will be able to obtain good streams. This course covers specific fire stream requirements and methods of calculating fire streams.

FIP 3011—*Forcible Entry*

Forcible entry means the opening of or the breaking through an enclosure that cannot be opened by conventional means. The breaking of a lock, prying open of a door or window, opening floors and roofs, breaking of glass, and breaching of a wall or partition are all parts of forcible entry practices. Forcible entry practices are often necessary to reach the seat of the fire for rapid extinguishment and rescue procedures.

FIP 3012—*Home Fire Safety*

As the result of many requests from such organizations as garden clubs, women's auxiliaries, and scout troops, the Department of Community Colleges has developed a teaching outline entitled "Home Fire Safety" which is designed to promote an awareness of fire safety and fire prevention in the layman. The outline is NOT a course of instruction for professional or semiprofessional fire organizations. NFPA handout material No. G55 should be used in conjunction with this course.

FIP 3014—*Hose Practices*

The term "fire hose" is used to identify a type of flexible tube which carries water under pressure from the source of supply to a point where it is discharged to extinguish fire. In order to be reliable, the fire hose should be constructed of the best materials and should not be used for purposes other than firefighting. The fire hose is the most used tool in the fire service and the manner in which it is used requires it to have flexibility, water-tightness, a smooth lining and durable covering. Its application and use with other appliances have placed it in the category of essential tools for fire extinguishment.

FIP 3015—*Introduction to Firefighting*

This has been developed by the Fire Service Training Program for new fire departments, where firemen must be trained for service as quickly as possible and for departments that have been active not more than two years, and have had no formal training. Forty-two hours have been allotted for completion of the course and a specific number of hours has been estimated for each topic for the instructor's convenience. Sequence of topics can be arranged according to the needs established by the fire chief and the instructor with the exception of XIII and XIV, which should be completed last. No basic textbook is required for this course; however, the reference which appears should be studied carefully by the instructor.

FIP 3016—*Ladder and Rope Practices*

Firefighters are required to perform ladder operations with a high degree of efficiency. Teamwork and smooth continuous movements are essential to develop speed and avoid injury. This outline incorporates ladder information and practices in: types, design and construction, methods and techniques of handling ladders, special raises and uses, and inspection and care of ladders.

FIP 3017—*Officer Training*

This teaching outline discusses the qualifications for an officer. It is intended for men in this grade and for those who aspire to reach this rank. It deals with problem solving, delegating responsibilities, supervision, written and oral communication, firefighting and non-firefighting duties of the company officer. This course is designed to be used for instruction of: volunteer fire departments, volunteer and part-paid fire departments, and paid fire departments.

FIP 3018—*Portable Fire Extinguishers*

Portable fire extinguishers are appliances which have a limited supply of fire extinguishing potential. The purpose is to discuss techniques in the proper selection, use, and operation of extinguishers to safeguard life and property in order to be able to select, use, and recommend fire extinguishers that are properly suited for the condition that may exist.

FIP 3019—*Protective Breathing Equipment*

No one, unless equipped with protected breathing equipment should be allowed to enter a building heavily charged with smoke and gas. Due to new processes and materials, firemen are coming in contact with many gases not formerly encountered.

When firemen enter such areas without the proper respiratory protection, it indicates that they have not been properly informed by those who are charged with that responsibility. A knowledge of the operation of protective breathing equipment and a recommended method of wearing it will increase the efficiency of fire department operations.

FIP 3020—*Rescue Practices*

The responsibility of the fire service is to protect life and property of citizens against hazards due to fire, explosion, storm, earthquake, and any other occurence that seriously disrupts normal conditions. Rescue work is an important function of the fire service and the purpose of this outline is to serve as a guide for good practices in the careful removal of people from any one of the hazardous situations named above to a point of safety.

FIP 3021—*Rope Practices*

Fire Service rope work involves all the knots and hitches necessary for hoisting tools, ladders, hose and extinguishers and for the splicing, care, and storage of lifelines and handlines. The knots in this outline are the ones most commonly used in the fire service today. Fire departments may use knots other than those discussed here; however, these are the basic knots and the tying methods taught are commonly accepted. If a fireman is proficient in his knots but has learned by other methods, it is not recommended that he change his techniques.

FIP 3022—*Salvage and Overhaul Practices*

A portion of the damage resulting from fires can be attributed to the necessary operations during fire extinguishment, such as the application of water, ventilation activities, and the tracing of fires throughout the structure. These unavoidable procedures cannot be eliminated entirely, but there is a growing tendency among fire departments to extinguish fires in a systematic and scientific manner thus reducing to a minimum damage incidental to fire extinguishment. An introduction to salvage work might give the impression that the extent of salvage during firefighting consists mainly in spreading salvage covers over merchandise; but there is considerably more to this subject than meets the eye of the casual observer. It is the purpose of the study of salvage to present approved techniques in the use and care of salvage equipment employed to reduce property damage during any emergency. The purpose of overhaul study is to present approved techniques of operation and to develop procedures by which these conditions may be handled. The scope of this section incorporates the expansion of these objectives in a well-rounded procedural sequence.

FIP 3023—*School Bus Evacuation*

The purpose of this outline is to provide better protection for the school children of North Carolina, while in transit to and from school. Even with the best of equipment and skillful drivers, the possibility of a school bus accident is always with us. Panic and confusion leading to injuries and possible death may follow unless the children are trained to obey instantly and without question. To avoid this type of disaster, these plans are set forth. In many respects they are similar to the fire drills conducted in the school. These procedures are practical and self-working and, as with any emergency plan, should be practiced regularly. It is suggested that these drills be staged in the morning upon arrival at school. Reloading the bus would not be necessary; the drill will serve in place of the normal unloading procedure.

FIP 3024—*Ventilation*

Ventilation practice generally is considered technical practice. To perform successfully, one must understand what happens inside a building when it fills with smoke from a smoldering fire, and what is to happen if the condition is handled improperly. Along with understanding, a high degree of cooperation is required, and the fireman must assume his responsibilities as they occur in locating fires as quickly as possible, extinguishing them with minimum damage, and rescuing trapped victims.

FIP 3025—*Teacher Education*

A 30-hour course on methods and teaching techniques. To familiarize the potential instructor with the proper procedures in developing outlines, incorporating the use of visual aids and through practical application develop good teaching habits in the varying methods of instruction.

FIP 3028—*First Aid For Firemen*

A basic course in first aid designed to afford the fireman the knowledge required in order to give emergency medical service on fire grounds and at accident scenes.

HIGH SCHOOL EQUIVALENCY PROGRAM

The High School Equivalency Program provides an opportunity for adults who did not complete their high school education to prepare for the General Educational Development Test (GED). This test enables the adult to demonstrate his general education competence and be awarded a certificate recognized and generally accepted as equivalent to a high school diploma.

A total standard score of 225 is the minimum requirement, with no single test result below a standard score of 35 for awarding the certificate.

Approximately eight hours are required to complete the entire battery of tests.

HIGH SCHOOL EDUCATION FOR ADULTS

ADULT HIGH SCHOOL DIPLOMA PROGRAM

The Adult High School Diploma Program is designed to give mature adults who have less than a twelfth grade education another opportunity to earn a high school diploma. The primary purposes of this program are to improve reading skills, to strengthen weaknesses in the educational background, and to assure basic knowledge in English, mathematics, science and social studies.

High School classes sponsored by Rowan Technical Institute do not operate on a unit system. To be eligible for the Adult High School Diploma, each student must demonstrate satisfactory proficiency in the four subject areas that are emphasized in the program. Proficiency is shown by meeting required scores on English, mathematics, science and social studies selected standarized achievement tests.

When scores indicate that the required achievement level in the four subject areas has been attained, students who are 18 years of age or older are then eligible to receive the Adult Education High School Diploma awarded by the student's local Board of Education.

ACADEMIC — VOCATIONAL EXTENSION

GENERAL INFORMATION

Adult education serves the aspirations of the more mature for learning new and more renumerative skills; for a higher degree of culture; for understanding the social, physical and economic environment; for fulfilling the role of responsible citizenship in a nation and world having complex problems; and for enriching the leisure time which is steadily increasing as a result of automation, shortened work weeks, and earlier retirement.

ADMISSION

Any adult who is 18 years of age or older and whose original high school class has graduated may enroll. A $5.00 fee is charged for General Adult classes, however some courses that are self supporting will require a higher fee.

The student may be requested to notify Rowan Technical Institute prior to the first class meeting or pre-register or merely to attend the first class session.

ACADEMIC-VOCATIONAL EXTENSION CLASSES

A-301

ART-2003 — *Arts and Crafts*

A hobby type class. Introduces various crafts such as block printing, jewelry making, decoupage, basket weaving, and plastic molding.

ART-2003 — *Macrame*

Instruction in the art of decorative knotting. Students make such items as belts, handbags, jewelry, wall hangings, floor mats, and lamp shades.

ART-2005 — *Decoupage*

Trains students in the artistic decoration of such articles as plaques, bottles and jewelry boxes. Teaches the technique of coloring prints, cutting out delicate patterns, and finishing the article.

ART-2006 — *Art*

A course for beginning art students, including fundamentals of drawing and painting and different media used.

ART-2015 — *Basic Sketching*

Introduces student to various creative techniques of sketching. Class work is a combination of lecture and sketching exercises.

ART-2019 — *Ceramics*

Introduction in basic ceramic work. Pouring molds, use of glazes, painting and firing will be covered. Major equipment is furnished.

A-501

MAT-2002 — *Introduction to College Math*

A preparatory course designed for students about to enter college; gives a refresher of basic trigonometry and other related college math programs.

MAT-2007 — *Modern Math for Parents*

An introduction to the basic principles and concepts of the "new" math being taught in area elementary schools.

A-702

ECO-2003 — *Income Tax*

A course designed to help taxpayers learn how to complete their own state and federal income tax forms. Instruction will include the use of proper forms, exemptions, allowable deductions, and other subjects of interest to taxpayers.

ECO-2004 — *Investments*

A course to give the student a basic understanding of the various facets of the world of finance. Included are investment funds and figures, risks, dividends, exchanges, mutual funds, etc.

ECO-2008 — *Stock Market*

Course covers history of investing, vocabulary of investment terms, description of stocks, bonds, convertibles, and mutual funds. Designed to give the student a good working knowledge of the security market.

A-705

JOU-2003 — *Mass Communications*

Designed to teach what is needed to pass the Novice, Technician, and General classes of amateur license examination. Includes international Morse Code, radio theory, and FCC regulations.

A-707

POL-2008 — *Political Action*

A unique, nonpartisan discussion program which focuses public debate on the pros and cons of important political issues facing the United States.

A-901

SCI-2001 — *Aviation Ground School*

Ground school for pilot training in aircraft, power plants, radio, navigation, and the amended written Federal Aviation Exam. Students are expected to purchase their own navigational study packet during the first class meeting.

SCI-2005 — *Crisis Intervention Counseling*

Course designed to train those persons involved with a phone-in counseling service.

SCI-2005 — *Understanding Human Behavior*

Designed for persons who desire to better understand their own behavior and attitudes as well as those of other people. Various types of normal and abnormal behavior will be presented and examined. Special emphasis placed on understanding and controlling anger, fear, guilt, and other emotions.

W-338

SAF-3002 — *Self Defense for Women*

A course designed to teach women how to defend themselves in danger situations. Instruction in the use of any available object as a weapon and other methods of protection.

W-541

HEC-3101 — *Advanced Sewing*

Fundamental techniques and procedures, construction, use and development of basic pattern selection and use of commercial patterns, garment construction; remodeling; fitting; pressing and finishing; elementary tailoring; study of the integrated wardrobe.

HEC-3103 — *Clothing Construction*

Instruction includes selection and fitting of patterns, use of sewing equipment, knowledge of fabrics, and basic construction of simple garments.

HEC-3103 — *Sewing*

Basic information necessary for the successful construction of a simple garment from a pattern. Ability to operate a sewing machine with ease and ability in selecting proper pattern size and knowledge in fabric selection are stressed.

HEC-3105 — *Crocheting*

A course designed for beginners. Will cover basic pattern interpretation, some basic pattern stitches, and a few more advanced stitches as the course progresses.

HEC-3109 — *Knitting*

Knowledge of stitches and procedures in hand knitting; also, abbreviations, symbols, terms and type of yarn used in knitting.

W-542

HEC-3203 — *Cake Decorating*

Course emphasizes decorating equipment and its use. Students learn pressure control of decorating utensils, the art of forming decorative flowers and forms, and the art of writing on cakes. Instruction for decorating cakes for all occasions is included.

W-545

HEC-3302 — *Creative Stitchery*

Emphasis on basic embroidery stitches on pillows, roll hangings, and individual designs. Students make such items as wall pictures, handbags, pillow covers and slip covers.

HEC-3302 — *Crewel*

Instruction in a type of canvas embroidery in which the background material is entirely covered by stitchery. Students make such items as chair seats and backs, foot stools, initials for pocketbooks, evening bags, cushions, pictures, etc.

HEC-3304 — *Floral Design*

Instruction in basic floral decorations for special occasions and holidays.

HEC-3304 — *Flower Arranging*

Study and practice of art forms and principles of flower arranging, includes uses of flowers, containers and accessories, design principles, color and texture, and arrangement for special occasions.

HEC-3305 — *Interior Decorating*

Emphasis on planning for the needs and interests of the family with practical application of basic design elements. Study will include furniture periods and styles; wall, floor, and window treatments; color and color harmony; and use of accessories.

W-762

BUS-3604 — *Personal Grooming*

Emphasis is placed on skin care, cosmetic application, corrective make-up, hair care, visual poise, standing, walking, social postures, etc. Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality.

W-975

MAS-3001 — *Bricklaying for the Home Hobbyist*

An introductory course to the art and skill of bricklaying. Gives homeowners an opportunity to learn bricklaying for home projects.

W-979

MDP-3007 — *Effective Speaking*

A course designed to instruct students in the preparation and delivery of speeches for all occasions. Various methods will be discussed and students participate.

MDP-3020 — *Speed Reading*

Designed to improve reading rate and techniques of the average or better than average reader. Films are used to speed up and improve reading techniques.

W-986

AUT-3501 — *Small Engine Repair*

A course designed to help individuals gain skills and knowledge needed to do day-to-day service on small two-and four-cycle air cooled engines.

W-988

WWK-3005 — *Woodworking*

Designed to help individuals learn how to use various hand and power tools as a hobby. Students have the opportunity to learn by making something for themselves out of wood and plastics.

Adult Driver Education

This course is designed to teach adults to drive an automobile. The course includes thirty hours of classroom instruction and eighteen hours of observation and behind-the-wheel training. The charge for this course is $16.00.

Beginning Genealogy

This course is designed to assist individuals through study and research to review their family trees or unknown progenitors. The course is further designed to broaden one's knowledge of history, geography, laws, customs and life in general of the present and past.

Holiday Decoration

This course is designed to teach adults how to make a variety of holiday decorations with the use of inexpensive household items and materials.

EDUCATION AND TRAINING IN CORRECTIONAL INSTITUTIONS

Rowan Technical Institute offers Adult Basic Education (Grades 1-8 level education); high school equivalency (grades 9-12), GED certificate program, and assorted occupational education courses at the Rowan and Cabarrus Complexes.

ADULT BASIC EDUCATION PROGRAM

GENERAL INFORMATION

Purpose

The Adult Basic Education Program at Rowan Technical Institute encompasses the following basic purposes in its quest to help the disadvantaged adult overcome his economic and social handicaps:

1. to develop the basic fundamental skills of reading, writing, and arithmetic
2. to assist adults in making the transition from dependency to independent action
3. to aid substantially in expanding employment qualifications and thereby adding new dimensions to the quality of living

Objectives

The Adult Basic Education Program at Rowan Technical Institute has set as its goals the achievement of the following ends:

1) At the first level (0-4), mastery of basic content requisite to understanding word concepts, constructing sentences, handling mathematical procedures (adding, subtracting, multiplying, and dividing) and communicating ideas to others.

2) At the second level (5-8), increasing and expanding the accomplishments at the previous level, so as to increase his understanding of specific content knowledge in the areas of language, social studies, science, arithmetic, health, and consumer education. Here the chief aim is to assist the student in becoming more aware of his environment and social interaction.

3) At the third level (9-12), to counsel the student toward transferring into the Adult High School program. Providing guidance that would aid the student in leaving the Adult Basic Education Centers and enrolling in the Adult High School Diploma Program.

HUMAN RESOURCES DEVELOPMENT PROGRAM

The Human Resources Development Program is an intensive and unified effort to recruit, train, and place in employment the chronically unemployed and underemployed adults of North Carolina. The primary objective of HRD training is to help the jobless trainee reorient himself or herself to the world of work through recognition of his or her individual assets and limitations, understanding the effect of his or her behavior on others, familiarization with problem-solving processes, and development of basic academic and communications skills which are prerequisite to obtaining and maintaining employment.

The three primary program components are:

1. Identification and recruitment of the individuals within the community who are in greatest need of this service. The jobless dependent on public assistance are preferential candidates. Local Employment Security Commission offices and other governmental agencies often assist in the identification of likely candidates.

2. Enrollment in an eight-weeks (240 hours) class in which the individual re-evaluates his self-concept, interacts within a group, learns the rudimentary disciplines associated with obtaining and retaining regular employment, examines some principles of consumer and family financial management, and, when necessary, takes remedial instruction in basic education. Throughout the training period and the post-training follow-up period emphasis is placed on individual counseling in an effort to help each trainee resolve the sociological, emotional or economic barriers impeding his vocational progress.

3. Placement in a job commensurate with the individual's abilities and interests. While the trainee receives classroom instruction, program staff members develop job opportunities within local businesses for the trainees to occupy after the completion of their classroom instruction. This placement component is often coordinated with the local office of the Employment Security Commission. The prevailing alternative to direct job placement is the enrollment of HRD trainees in specific skills training programs available at the institution.

In an effort to support the HRD graduate as he works toward the development of confidence in himself as an employee, the program requires at least three follow-up visits with each trainee during the first year after he completes the training cycle.

PERSONNEL

BOARD OF TRUSTEES

APPOINTED BY THE GOVERNOR:	Term Expires
Stokes Devereux	1977
H. T. Hall	1983
William S. Murdoch, Chairman	1981
Mrs. Mabel Yarbrough	1979

APPOINTED BY THE ROWAN COUNTY COMMISSIONERS:	
Charles C. Erwin	1983
John H. Isenhour, Jr.	1977
Mrs. Ruby Kesler	1979
Harold Kenerly	1981

APPOINTED JOINTLY BY THE SCHOOL BOARDS OF SALISBURY AND ROWAN COUNTY:	
Clyde H. Harriss	1979
Carroll T. Overton, Vice Chairman	1977
Frank Patterson	1983
Joe Rutledge, III	1981

ADMINISTRATIVE OFFICERS

C. Merrill Hamilton . . . . President

B.S., Ball State University; M.A., Ohio State University.

Ronald E. Bostian . . . . Business Manager

A.B., Duke University; Advanced study Babcock Graduate School of Management.

Aubrey K. Cheek . . . . Dean of Continuing Education

A.A., Gardner Webb College; A.B., Belmont Abbey College; M.A., Appalachian State University; Advanced study North Carolina State University.

William L. Comer . . . . Administrative Assistant

B.S., University of Nebraska at Omaha; M.A., Appalachian State University; Ed. D., Nova University.

Joel M. Freeman . . . . Dean of Occupational Education

B.S., Western Carolina University; M.Ed., Western Carolina University; Advanced study Nova University.

Grady S. Lloyd . . . . Dean of Students

A.B., Lenoir Rhyne College; M.A., Appalachian State University; Advanced study Nova University.

GENERAL STAFF

Ms. Anganetta J. Anderson . . . . Audiovisual Coordinator

A.A., Lees-McRae College; B.S., Appalachian State University; M.A., Appalachian State University.

Miss Mary Avery . . . . Director, Learning Resource Center

B.S., East Carolina University; M.A., Appalachian State University; Advanced study Appalachian State University.

Ted Bodenheimer . . . . Coordinator, Human Resource Development
A.B., University of North Carolina at Chapel Hill.

Sidney R. Boland, III . . . . Counselor
B.S., Western Carolina University; M.A., Western Carolina University.

James S. Brooks . . . . Audiovisual Technician
A.A.S., Rowan Technical Institute; U.S. Navy Training.

David W. Butler . . . . Coordinator, Academic-Vocational Extension Programs
B.S., Livingstone College; M.S., A & T State University; Advanced study North Carolina State University.

James B. Edwards . . . . Coordinator, Concord Center
B.A., Davidson College.

Chris F. Hooper . . . . Area Coordinator
A.A.S., Fire Protection, Rowan Technical Institute; A.A.S., Fire Science, Rowan Technical Institute.

Aaron S. Johnson . . . . Chief Coordinator, Human Resource Development
B.A., North Carolina Central University.

C. Perry Julian . . . . Veterans Affairs Coordinator
A.A.S., Rowan Technical Institute; B.S., East Carolina University; Advanced study University of North Carolina at Charlotte.

J. Robert Lanning . . . . Coordinator, Evening Programs
B.S., Catawba College; M.A., Appalachian State University; Ed.S., Appalachian State University.

Mrs. Betty C. McCrary, R.N. . . . . Extension Coordinator for Health Occupations
Graduate Watts Hospital School of Nursing; Public Health Nurse; Undergraduate study North Carolina State University.

Mrs. Diana Myers . . . . Counselor
B.A., Eastern Kentucky University; M.Ed., University of North Carolina at Charlotte.

Eddie H. Myers . . . . Director of Admissions and Records
B.A., Catawba College; M.A., Appalachian State University; Advanced study at University of North Carolina at Greensboro.

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B.S., East Carolina University; Advanced study Old Dominion University.

Mrs. Pam Setzer . . . . Coordinator, Basic Adult Extension Programs
A.B., Catawba College.

Mrs. Linda Shirley . . . . Library Aide
Studies at Rowan Technical Institute.

Mrs. Mildred Smith . . . . Coordinator, Individualized Instruction Center
B.S., Livingstone College.

John Szakal . . . . Coordinator, Technical-Vocational Extension Programs-Kannapolis Center

A.B., Rollins College.

Mrs. Rachael Thomason . . . . Records Specialist

Undergraduate study Lenoir Rhyne College.

Jerry L. Thrift. . . . . Coordinator, Cabarrus County Extension Programs

A.B., Pfeiffer College.

Miss Linda Wooten . . . . Data Processing Technician

A.A.S., Rowan Technical Institute

Johnny York. . . . . Financial Aid

B.S., Western Carolina University.

FACULTY

Mrs. Marlene C. Anthony . . . . Early Childhood Education

B.A., University of North Carolina at Charlotte; M.A., Appalachian State University.

Mrs. Ruth A. Ball, R.N.. . . . . Associate Degree Nursing

Graduate Davis Hospital School of Nursing; B.A., Pfeiffer College.

Charles R. Benson . . . . Physical Sciences

B.S., North Carolina State University; M.A., Appalachian State University; Additional study University of North Carolina at Charlotte.

Randy L. Brooks. . . . . Criminal Justice

A.A.S., Gaston College; B.A., Sacred Heart College

Mrs. Vivian T. Brown . . . . Early Childhood Education

B.S., Barber-Scotia College; M.Ed., University of North Carolina at Charlotte.

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B.S., LeTourneau College; M.Ed., North Carolina State University; Additional study University of North Carolina at Charlotte, Polytechnic Institute of Brooklyn and Rowan Technical Institute; Certified Manufacturing Engineer; Certified Senior Engineering Technician.

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Graduate King's College; A.A.S., Rowan Technical Institute.

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B.S., University of Rhode Island; M.S., University of Tennessee; Ed.S., University of Tennessee.

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Mrs. Phyllis S. Daugherty, R.N. . . . . Associate Degree Nursing

Graduate Lowrance Hospital School of Nursing; B.A., Pfeiffer College; Advanced study North Carolina State University.

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Graduate Lowrance Hospital School of Nursing; Undergraduate study North Carolina State University.

James C. DeBerry. . . . . Business Administration
A.B., Pfeiffer College; M.A., Appalachian State University; Additional study Western Carolina University.

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A.A., Santa Ana College.

Vernon D. Eanes . . . . Air Conditioning and Refrigeration
Graduate Danville Technical Institute; Graduate Virginia Polytechnic Institute; Licensed Heating and Air Conditioning Contractor; Undergraduate study North Carolina State University.

Eugene F. Earnhardt . . . . Electronics Engineering
Graduate DeVry Technical Institute; B.S.E., University of North Carolina at Charlotte.

George E. Evans . . . . Head, Department of
Trade Education, Automotive Mechanics
United States Army-Air Force Technical Training; Nashville Auto Diesel College; General Motors and Delco-Remy Training Schools; Undergraduate study North Carolina State University.

Mrs. Vida Germany . . . . English, General Studies
B.A., St. Augustine's College; M.A., George Peabody College for Teachers.

Mrs. Doris Gibbs . . . . English
A.B., University of North Carolina at Chapel Hill; Advanced study University of Georgia.

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Mrs. Rebecca B. Hammill. . . . . Head, Department of
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Mrs. Lyn Heffner . . . . Early Childhood Education
B.S., Western Carolina University.

Mrs. Carol S. Hess. . . . . Secretarial Science
B.S., Appalachian State University; M.A., University of North Carolina at Greensboro.

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Coyne Electrical School; B.S., University of North Carolina at Chapel Hill; Additional study Duke University.

Dennis D. Hinz . . . . Related Trade Subjects
A.A., Clinton Junior College; Graduate Cleveland Institute of Electronics; Undergraduate study Appalachian State University.

Miss Ruth Hope, R.N. . . . . Practical Nurse Education
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Graduate Rowan Technical Institute; Graduate Marietta-Cobb Area Vocational-Technical School; Licensed Electrical Contractor, State of North Carolina.

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B.S., University of South Carolina; B.S., Winthrop College; Advanced study Winthrop College.

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A.B., Pfeiffer College; M.A., Western Carolina University.

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Graduate Cabarrus Memorial Hospital School of Radiologic Technology; Advanced study Emory University Medical Center.

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B.S., M.S., East Tennessee State University.

Gernal A. Lowman . . . . Machinist Trade

Nashville Auto and Diesel School; Undergraduate study North Carolina State University; Certified Engineering Technician.

Ervin W. McCulloch . . . . Head, Department of Electo-Technology Electrical Engineering Technology

B.S., North Carolina State University; Bliss Electrical School; Registered Professional Electrical Engineer; Licensed Electrical Contractor, State of North Carolina; Graduate study University of North Carolina at Charlotte.

Mrs. Jimmie H. Melton, C.D.A. . . . . Dental Assistant

Diploma, Dental Assisting, University of North Carolina Extension Division; Undergraduate study University of North Carolina at Charlotte.

Mrs. Lucille S. Miller, R.N. . . . . Practical Nurse Education

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Mrs. Jearldean P. Mills, R.N. . . . . Associate Degree Nursing

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Kenneth E. Mullis . . . . Mechanical Drafting

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Mrs. Becky G. Neely . . . . Early Childhood Education

B.S., Virginia Polytechnic Institute; M.S., University of North Carolina at Greensboro.

Miss Cathey Newsome . . . . Chemistry/Biology

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A.B., Catawba College; M.Ed., University of North Carolina at Charlotte.

Randall B. Ogle . . . . Industrial Safety and Health Technology

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Vohn N. Peeler . . . . Electrical Installation & Maintenance

Graduate Rowan Technical Institute; United States Air Force Technical Training; Undergraduate study Catawba College, Charlotte College, and North Carolina State University; N. C. Licensed Electrical Contractor.

Miss Carol D. Pegram, R.T. . . . . Radiologic Technology

A.A.S., Forsyth Technical Institute; B.S., Medical College of Georgia.

Robert C. Poole, Jr. . . . . Drafting and Design Technology

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B. Grady Sloop . . . . Automotive Mechanics

General Motors Training Schools; Ammco Training School; Undergraduate study North Carolina State University and Davidson County Community College; NIASE Certified.

Paul P. Strenio . . . . Business Administration

B.S., Thiel College.

Hilton J. Swindell . . . . Welding

United States Navy Advanced Welding School; Undergraduate study North Carolina State University.

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Mrs. Barbara G. White, R.N. . . . . Associate Degree Nursing

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Jerry Wilkes . . . . English

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Boykin F. Williams . . . . Business Administration

Graduate King's College; B.A., University of North Carolina at Charlotte.

Larry Wright . . . . Electronics Technology

B.S.E.E., North Carolina State University; Registered Professional Engineer, State of Maryland; Graduate study University of Maryland.

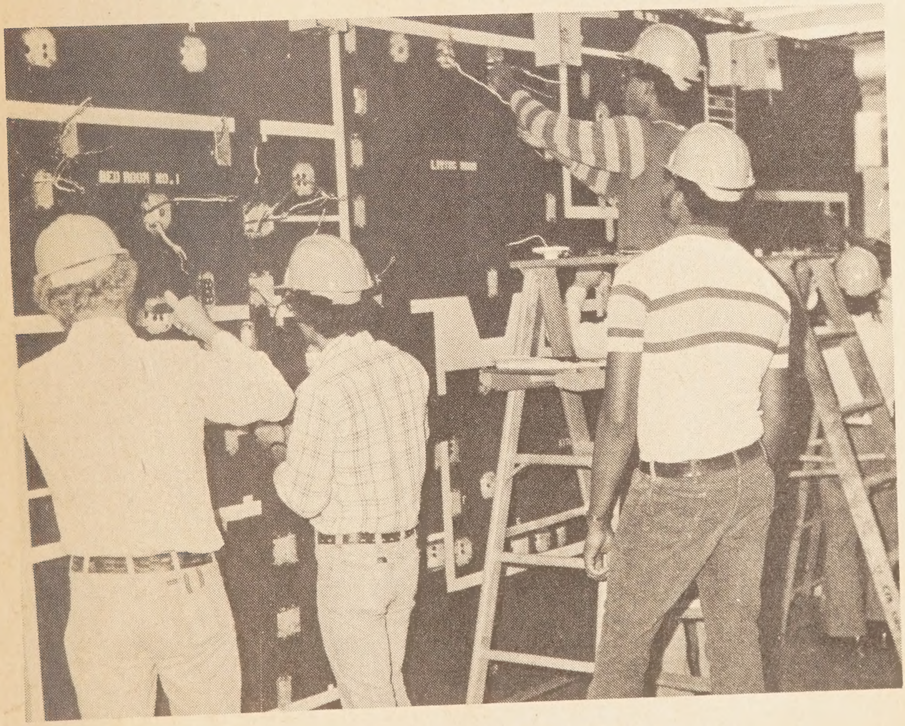
In addition, approximately 240 faculty and staff persons are part-time employees in the Curriculum and Continuing Education instructional programs.

OFFICE STAFF

Mrs. Nancy Adams	Receptionist
Mrs. Martha Ann Barringer	Secretary
Mrs. Brenda Blalock	Secretary
Mrs. Frances Caudle	Secretary
Mrs. Gail Cavin	Secretary
Miss Brenda Clement	Secretary
Miss Linda Daugherty	Secretary
Mrs. Patsy Everhart	Secretary
Miss Linda Faggart	Secretary
Mrs. Shelia Fortson	Cashier
Mrs. Julia Furr	Secretary
Ms. Rhonda Jones	Bookstore Clerk
Mrs. Janet Leazer	Secretary
Mrs. Linda Linn	Secretary
Miss Roxie Lomax	Duplicating Clerk
Mrs. Nancy Lyerly	Bookkeeper
Miss Karen McBride	Secretary
Ms. Beverly Phillips	Secretary
Miss Shirley Sharpe	Secretary
Mrs. Rushie Shue	Evening Receptionist
Miss Debbie Sloop	Secretary
Ms. Brenda Stoner	Accounting Clerk
Mrs. Judy VonCanon	Secretary
Miss Glenda Williams	Secretary

PHYSICAL PLANT STAFF

John W. Hill	Supervisor, Physical Plant
Charles Brooks	Assistant Supervisor, Physical Plant
Howard Crossett	Assistant Supervisor, Physical Plant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CALENDAR 1976

JANUARY

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FEBRUARY

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CALENDAR 1977

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AUGUST

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SEPTEMBER

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OCTOBER

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NOVEMBER

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DECEMBER

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CALENDAR 1978

JANUARY

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FEBRUARY

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MARCH

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APRIL

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MAY

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JUNE

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JULY

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SEPTEMBER

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OCTOBER

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NOVEMBER

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DECEMBER

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